MEAMS
Middle East Annals of Medical Sciences
Saint Joseph University of Beirut

SPECIAL NRD ISSUE AND FRON 2025

2ND NATIONAL RESEARCH DAY
LEBANESE MEDICAL SCHOOLS

USJ 1875 1883
Université Saint-Joseph de Beyrouth
Faculté de médecine

NATIONAL RESEARCH DAY

LEBANESE MEDICAL SCHOOLS

Saturday, May 3, 2025 | 9:00 AM - 3:00 PM

Faculty of Medicine

Saint Joseph University of Beirut

AMERICAN UNIVERSITY OF BEIRUT

جامعة بيروت العربية
BEIRUT ARAB UNIVERSITY

LAU
الجامعة اللبنانية الأميركية
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Saint George University of Beirut
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SGUB

UNIVERSITY OF BALAMAND

USEK
Holy Spirit University of Kaslik

USJ 1875
Université Saint-Joseph de Beyrouth

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ISSN

AIMS AND SCOPE

Aims:

MEAMS is a peer-reviewed, open-access medical and healthcare sciences journal published under the auspices of the Faculty of Medicine at Saint Joseph University of Beirut, Lebanon. MEAMS aims to advance medical and healthcare sciences by publishing high-quality, multidisciplinary research that bridges clinical practice, public health, biomedical sciences, and health policy, with a focus on the MENA region and global relevance. The journal fosters interdisciplinary collaboration, supports emerging researchers, and promotes open science. Emphasizing both fundamental and translational research, it seeks to drive innovation in diagnostics, therapeutics, and healthcare solutions, while influencing evidence-based policies that improve health outcomes and equity. The publication process is free of charge, and the journal is fully open access.

Scope:

MEAMS welcomes submissions that span the full spectrum of medical and healthcare sciences. The journal encourages original research, comprehensive and systematic reviews, meta-analyses, clinical trials, case reports, policy analyses, expert commentaries, and thought-provoking editorials that advance medical knowledge and practice.

MOT ÉDITORIAL DU VICE-RECTEUR À LA RECHERCHE DE L'USJ

C'est avec une grande joie et une profonde conviction académique que nous présentons le premier numéro du Middle Eastern Annals of Medical Sciences (MEAMS), revue scientifique portée par la Faculté de médecine de l'Université Saint-Joseph de Beyrouth.

La création de MEAMS s'inscrit dans la vision stratégique de notre Université : renforcer la visibilité et l'impact de la recherche, encourager l'excellence scientifique et contribuer activement aux grands enjeux de santé de notre région et du monde. À travers cette revue, nous affirmons notre engagement en faveur d'une science ouverte, inclusive et accessible, au service du progrès médical et de l'équité en santé.

MEAMS ambitionne de devenir une plateforme scientifique de référence pour la région du Moyen-Orient, tout en s'inscrivant pleinement dans le dialogue académique international. Son positionnement multidisciplinaire allant de la médecine clinique aux sciences biomédicales fondamentales, de la santé publique aux politiques de santé, des biotechnologies à la santé numérique, reflète notre conviction que les défis sanitaires contemporains exigent des approches transversales, intégrant recherche fondamentale, innovation technologique et application clinique.

Dans un contexte régional marqué par des transitions épidémiologiques complexes, des crises humanitaires, des inégalités persistantes et des mutations rapides des systèmes de santé, MEAMS se veut un espace de réflexion rigoureuse et d'innovation responsable.

Au-delà de la production scientifique, MEAMS entend également soutenir les jeunes chercheurs, favoriser les collaborations interdisciplinaires et internationales, et promouvoir des standards élevés d'intégrité, de transparence et de qualité méthodologique. L'exigence du processus d'évaluation par les pairs garantira la crédibilité des travaux publiés.

MEAMS se veut également une revue ouverte et fédératrice. Bien qu'initiée par la Faculté de médecine de l'USJ, elle est ouverte à l'ensemble des facultés de médecine, des écoles de santé publique et des institutions de santé au Liban. Nous souhaitons qu'elle devienne un espace national de convergence scientifique, favorisant les synergies interuniversitaires et renforçant la visibilité collective de la recherche médicale libanaise sur la scène internationale.

Ce premier numéro marque le début d'une ambition collective en incluant les résumés présentés au National Research Day (NRD) organisé par l'USJ le 3 mai 2025 ainsi que ceux du FRON (Forum de Recherche en ONcologie) présentés le 13 Septembre 2026. Il témoigne de la vitalité académique des Facultés de médecine au Liban et de la capacité de notre communauté scientifique à proposer des solutions fondées sur les preuves, adaptées aux réalités locales et pertinentes à l'échelle globale.

Je tiens à remercier chaleureusement le comité éditorial et l'ensemble des collaborateurs qui ont contribué au lancement de cette revue. Leur engagement illustre l'esprit de service, de rigueur et d'innovation qui caractérise notre Université.

Nous formons le vœu que MEAMS devienne un carrefour scientifique dynamique, favorisant le partage des connaissances, le dialogue entre disciplines et la construction d'une santé durable pour tous.

Pr Richard Maroun
Vice-recteur à la recherche
Université Saint-Joseph de Beyrouth

EDITORIAL NOTE FROM THE VICE-RECTOR FOR RESEARCH AT USJ

It is with great joy and deep academic conviction that we present the first issue of the *Middle Eastern Annals of Medical Sciences* (MEAMS), a scientific journal led by the Faculty of Medicine at Saint Joseph University of Beirut.

The creation of MEAMS is part of our University's strategic vision: to strengthen the visibility and impact of research, to encourage scientific excellence, and to actively contribute to the major health challenges of our region and the world. Through this journal, we affirm our commitment to an open, inclusive, and accessible science in the service of medical progress and health equity.

MEAMS aspires to become a leading scientific platform for the Middle East region while fully engaging in international academic dialogue. Its multidisciplinary scope, ranging from clinical medicine to fundamental biomedical sciences, from public health to health policy, from biotechnology to digital health, reflects our conviction that contemporary health challenges require cross-cutting approaches that integrate basic research, technological innovation, and clinical application.

In a regional context marked by complex epidemiological transitions, humanitarian crises, persistent inequalities, and rapid changes in healthcare systems, MEAMS seeks to serve as a space for rigorous reflection and responsible innovation.

Beyond scientific production, MEAMS also aims to support early-career researchers, foster interdisciplinary and international collaborations, and promote high standards of integrity, transparency, and methodological quality. A rigorous peer-review process will ensure the credibility of the published work.

MEAMS is also intended to be an open and unifying journal. Although initiated by the Faculty of Medicine at USJ, it is open to all faculties of medicine, schools of public health, and healthcare institutions in Lebanon. We hope it will become a national space for scientific convergence, fostering interuniversity synergies and strengthening the collective visibility of Lebanese medical research on the international stage.

This inaugural issue marks the beginning of a collective ambition. It includes the abstracts presented at the National Research Day (NRD), organized by USJ on May 3, 2025, as well as those from FRON *(Forum de Recherche en Oncologie)*, presented on September 13, 2026. It bears witness to the academic vitality of the faculties of medicine in Lebanon and to the ability of our scientific community to propose evidence-based solutions that are adapted to local realities and relevant on a global scale.

I warmly thank the editorial board and all the collaborators who contributed to the launch of this journal. Their commitment reflects the spirit of service, rigor, and innovation that characterizes our University.

We sincerely hope that MEAMS will become a dynamic scientific crossroads, fostering the sharing of knowledge, dialogue among disciplines, and the development of sustainable health for all.

Prof. Richard Maroun
Vice-Rector for Research
Saint Joseph University of Beirut

MOT ÉDITORIAL DU DOYEN DE LA FACULTÉ DE MÉDECINE DE L'USJ

Il est des initiatives qui dépassent la simple naissance d'une revue. Elles traduisent une décision collective : celle de ne pas subir le temps, mais de le comprendre, de l'éclairer et d'y répondre par la science.

Avec ce premier numéro du Middle Eastern Annals of Medical Sciences (MEAMS), la Faculté de médecine de l'Université Saint-Joseph de Beyrouth pose un acte fondateur et affirme une intention simple et forte : faire de l'écriture scientifique une culture, ancrer durablement la médecine dans la pensée et la pensée dans l'action. Car notre vocation n'est pas uniquement de soigner, ni uniquement d'enseigner, mais de relier ces deux exigences par un troisième pilier : produire, organiser et transmettre un savoir qui se construit, se relit et se transmet.

Dans nos amphithéâtres, nos services, nos laboratoires et nos hôpitaux, nous savons que le progrès n'est jamais automatique. Il naît d'une discipline : observer avec précision, interroger avec honnêteté, comparer, documenter, puis partager. Publier, c'est d'une part, accepter de rendre compte et d'autre part, transformer une expérience en argument, un résultat en repère, une intuition en question. Par ailleurs, la publication nous apprend la modestie : celle qui consiste à laisser les faits parler avant les convictions.

Je souhaite que MEAMS devienne un lieu d'exigence et d'élan : une revue qui privilégie la clarté, la pertinence, la solidité des messages. Une science qui n'empile pas des pages, mais qui éclaire la décision médicale et améliore la pratique.

Mais MEAMS n'a pas vocation à être une voix isolée. Elle est, dès l'origine, une invitation. Une invitation aux autres facultés de médecine, aux instituts et écoles des sciences de la santé, aux équipes hospitalières et aux unités de recherche, à faire de cette revue un espace commun, où les regards se croisent, où les idées se confrontent avec respect et où la collaboration devient une méthode. Car nos défis — de formation, de soins, de recherche et de santé publique — appellent des réponses construites ensemble.

À nos étudiants, à nos médecins et à nos collègues professionnels de santé, MEAMS adresse aussi un message : la recherche n'est pas un territoire réservé ; elle est une posture. Elle apprend à douter avec méthode, à argumenter avec rigueur et à servir le patient avec davantage de justesse.

Ce premier numéro ouvre une trajectoire. Puissions-nous y inscrire, numéro après numéro, une même ambition : écrire pour mieux soigner, partager pour mieux former et bâtir ensemble une médecine plus juste, parce que mieux pensée.

Pr Elie Nemer, MD
Doyen, Faculté de médecine
Université Saint-Joseph de Beyrouth

EDITORIAL NOTE FROM THE DEAN OF THE FACULTY OF MEDICINE AT USJ

Some initiatives go beyond the mere launch of a journal. They reflect a collective decision: not to passively endure the times, but to understand them, shed light on them, and respond through science.

With this inaugural issue of the *Middle Eastern Annals of Medical Sciences* (MEAMS), the Faculty of Medicine at Saint Joseph University of Beirut takes a founding step and affirms a clear and powerful intention: to make scientific writing a culture, to firmly anchor medicine in thought, and thought in action. Our mission is not only to heal or to teach, but to connect these two imperatives through a third pillar: producing, organizing, and transmitting knowledge that is built, revisited, and shared.

In our lecture halls, our departments, our laboratories, and our hospitals, we know that progress is never automatic. It arises from discipline: precise observation, honest questioning, comparison, documentation, and, ultimately, sharing. Publishing means, on the one hand, accepting accountability, and on the other, transforming experience into argument, results into points of reference, and intuition into questions. Publication also teaches us humility: the humility of allowing facts to speak before convictions.

I hope that MEAMS will become a place of both rigor and momentum: a journal that values clarity, relevance, and the strength of its messages. A science that does not merely accumulate pages, but illuminates medical decision-making and improves practice.

Yet MEAMS is not intended to be an isolated voice. From the outset, it is an invitation. An invitation to other faculties of medicine, institutes and schools of health sciences, hospital teams, and research units to make this journal a shared space, where perspectives intersect, where ideas are discussed with respect, and where collaboration becomes a method. The challenges we face in education, care, research, and public health call for responses built together.

To our students, our physicians, and our fellow healthcare professionals, MEAMS also conveys a message: research is not a territory reserved for a select few; it is a mindset. It teaches us to question methodically, to argue rigorously, and to serve patients with greater accuracy and fairness.

This first issue opens a trajectory. May we inscribe in it, issue after issue, the same ambition: to write in order to heal better, to share in order to educate better, and to build together a more just medicine that is better thought through.

Prof. Elie Nemer, MD
Dean, Faculty of Medicine
Saint Joseph University of Beirut

PROGRAM at a glance

Oral Presentations

- Auditorium: Raymond and Aïda Najjar Building, Lower Ground
- HE1: Raymond and Aïda Najjar Building - East Side, 1st floor
- HE3: Raymond and Aïda Najjar Building - East Side, 3rd floor

Poster Presentations

Garden, Medical Sciences Campus

Time	Agenda	Location
08:00 – 09:00	Registration	Auditorium
09:00 – 09:15	Welcome and Opening	Auditorium
09:15 – 10:45	Oral Presentation – Session I Poster Presentation – Session I	Auditorium / HE1 / HE3 University Garden Zone
10:45 – 11:15	Coffee Break	Cafeteria – New Building
11:15 – 12:45	Oral Presentation – Session II Poster Presentation – Session II	Auditorium / HE1 / HE3 University Garden Zone
12:45 – 14:00	Lunch Break	Cafeteria – New Building
14:00	Award Ceremony	Auditorium

Auditorium

- **Location:** Lower Ground - West Building
- **Time:** 09:15 – 10:35
- **Moderator:** Dr. Moussa Riachy
- **Jury Members:** Dr. Hisham Bou Fakhreddine, Dr. Myriam El Amm, Dr. Nancy Nakhoul, Dr. Remi Daou, Dr. Youssef Rizk

Time	Abstract Title	Presenter Name
09:15 - 09:23	**ID:40 - Rethinking Dural Tears: Do Minimally Invasive Techniques Outperform Open Surgery?**	**Ali Hassan Majed** Lebanese American University -Clinical Research-
09:23 - 09:31	**ID:54 - Analysis of the Histopathological, Molecular, and Prognostic Characteristics of Breast Cancers Diagnosed During Pregnancy**	**Andie Serhan** Saint Joseph University of Beirut -Clinical Research-
09:31 - 09:39	**ID:61 - Impact of Screen Exposure on Language and Communication Disorders in Children Referred to Neuropediatrics: Assessment Using a Simplified Cars Score**	**Fouad Noujeim** Saint Joseph University of Beirut -Clinical Research-
09:39 - 09:47	**ID:26 - Comparative Analysis of Surgical Fixation Techniques for Pediatric Odontoid Fractures: A Systematic Review**	**Imad El Ashkar** Lebanese American University -Clinical Research-
09:47 - 09:55	**ID:2 - Optimizing Antibiotic Treatment Duration: An Updated Systematic Review and Meta-Analysis of 7-Day Versus 14-Day Courses for Bacteremias**	**Jacinthe Khater** Lebanese University -Clinical Research-
09:55 - 10:03	**ID:58 - Is Pelvic Fixation a Risk Factor for Pelvic Incidence Change After Surgery for Adult Spinal Deformity? A Retrospective Analysis**	**Mohammad Daher** Saint Joseph University of Beirut -Clinical Research-
10:03 - 10:11	**ID:24 - The Epidemiological and Oncological Profile of Gastrointestinal Stromal Tumors in the Lebanese Population: A Bi-Institutional Cohort**	**Firas Haddad** American University of Beirut -Clinical Research-
10:11 - 10:19	**ID:57 - Impact of Surgery for Mid-Low Rectal Cancer: Analysis of Defecatory, Urinary, and Sexual Disorders in an Observational Cross-Sectional Study**	**Vincent Adaime** Saint Joseph University of Beirut -Clinical Research-
10:19 - 10:27	**ID:4 - Effect of Patient's Characteristics and Surgical Technique on the Patient Outcomes and Satisfaction after Endoscopic Lumbar Discectomy**	**Youssef Jamaleddine** Lebanese American University -Clinical Research-
10:27 - 10:35	**ID:36 - Knowledge, Perceptions, Attitudes, and Behaviors of Healthcare Workers Regarding Blood and Body Fluid Exposure in a Tertiary Medical Center**	**Zeina Al-Khalil** American University of Beirut -Clinical Research-

HE1

- **Location:** 1st floor, East Building, Raymond and Aïda Najjar Building
- **Time:** 09:15 – 10:35
- **Moderator:** Dr. Maissa Safieddine
- **Jury Members:** Dr. Adlette Inati, Dr. Lama Charafeddine, Dr. Michele Asmar, Dr. Michael Ossais, Dr. Zeina Akiki

Time	Abstract Title	Presenter Name
09:15 - 09:23	ID:169 - Antibiotic Misuse in Patients Colonized with Multidrug-resistant Enterobacteria at the Rectal Level	**Elie Daccache** Saint Joseph University of Beirut -Epidemiology & Public Health-
09:23 - 09:31	ID:281 - The Epidemiology of Infections Among Patients with Hematologic Malignancies in Lebanon: An Observational Retrospective Study	**Hiba Yassine** Lebanese American University -Epidemiology & Public Health-
09:31 - 09:39	ID:75 - Assessing the Role of ChatGPT and AI in Medical Education: Usage, Perceptions, and Future Directions	**Therese Bou Dagher** Saint Joseph University of Beirut -Epidemiology & Public Health-
09:39 - 09:47	ID:246 - The Epidemiology Gram-Positive Cocci Blood Stream Infections, and their Resistance Pattern: A Multi-Centered Study from Lebanon	**Pamela Al Haber** Lebanese American University -Epidemiology & Public Health-
09:47 - 09:55	ID:196 - Survey on Seasonal Influenza Vaccination among Healthcare Workers in Lebanese Hospitals: Post-COVID-19 Pandemic and Economic Crisis Perspective	**Rana Attieh** Lebanese American University -Epidemiology & Public Health-
09:55 - 10:03	ID:273 - Pager Attack in Lebanon: A Multi-Center Retrospective Analysis of Ophthalmic Injuries	**Riwa Ibrahim** Lebanese American University -Epidemiology & Public Health-
10:03 - 10:11	ID:62 - Building Resilient Healthcare Systems: Integrating Planetary Health Education in the Face of Climate Challenges – Perspectives from Lebanon	**Sarah Beaini** Saint Joseph University of Beirut -Epidemiology & Public Health-
10:11 - 10:19	ID:186 - Parental Smartphone Addiction and Child Problematic Media Use: Mediating Factors and Validation of Child-Parent Relationship Scale in Arabic	**Nicole Tannous** Holy Spirit University of Kaslik -Epidemiology & Public Health-
10:19 - 10:27	ID:146 - Association Between GI Disorders and Mental Health: A Comparative Cross-Sectional Study Among Lebanese Patients Diagnosed with a GI Disorder	**Yolla Abou Salha - Celine Diab** Beirut Arab University -Epidemiology & Public Health-
10:27 - 10:35	ID:218 - Evolution of Vaccination Coverage Among Children in Lebanon: A Comparative Epidemiological Analysis	**Zeina Hazime** Lebanese University -Epidemiology & Public Health-

HE3

- **Location:** 3rd floor, East Building, Raymond and Aïda Najjar Building
- **Time:** 09:15 – 10:27
- **Moderator:** Dr. Ayman Assi
- **Jury Members:** Dr. Alain Chebly, Dr. Melhem Bilen, Dr. Rosette Jabbour, Dr. Samer Bazzi, Dr. Wissam Faour

Time	Abstract Title	Presenter Name
09:15 - 09:23	**ID: 164 - Vitamin C Alleviates Cardiac Fibrosis by Fine Tuning Fibroblasts Phenotype**	**Abdo-Marie El Mouallem** Saint Joseph University of Beirut, Basic Science
09:23 - 09:31	**ID: 149 - Unraveling a Novel Gene Involved in Congenital Hearing Loss: Challenges in Variant Interpretation and the Power of Linkage Analysis**	**Ali Hamam** Lebanese American University, Basic Science
09:31 - 09:39	**ID: 103 - Hesperidin a Potent Citrus Flavonoid Alleviates Kidney Fibrosis via NFATC4 Inhibition**	**Angelique Beyrouthy** Saint Joseph University of Beirut, Basic Science
09:39 - 09:47	**ID: 104 - Vitamin C Exerts a Limited Renal Antifibrotic Effect: An Experimental Study in Adult Rats**	**Elie Abdo** Saint Joseph University of Beirut, Basic Science
09:47 - 09:55	**ID: 213 - PTH in the Lebanese Population: Age, Sex, 25(OH)D, GFR, And HBA1C, and Analysis of PTH Over Time**	**Gilbert Freiha** Saint Joseph University of Beirut, Basic Science
09:55 - 10:03	**ID: 154 - Unlocking the Relationship Between Pelvic Tilt and Acetabular Orientation in 3D: Role of Pelvic Morphology**	**Gilles Prince** Saint Joseph University of Beirut, Basic Science
10:03 - 10:11	**ID: 83 - Acetylsalicylic Acid Exacerbates Myocardial Fibrosis: An In-Vivo and In-Vitro Experimental Study**	**Hadi Al Mokdad** Saint Joseph University of Beirut, Basic Science
10:11 - 10:19	**ID: 232 - The Impact of Fecal Microbiota Transplantation in Modulating Colon Health in Diabetes and Colorectal Cancer**	**Leonard Lawandos** American University of Beirut, Basic Science
10:19 - 10:27	**ID: 241 - Cyclic Guanosine 3'-5' Monophosphate (cGMP) Signaling Is Differentially Altered in Diabetic Cardiomyopathy**	**Razan Zantout** Lebanese American University, Basic Science

Auditorium Session II

- **Location:** Lower Ground - West Building
- **Time:** 11:15 – 12:35
- **Moderator:** Dr. Moussa Riachy
- **Jury Members:** Dr. Amer Sebaaly, Dr. Ghassan Nabbout, Dr. Nahed El Najjar, Dr. Najat Fares, Dr. Rony Nawwar

Time	Abstract Title	Presenter Name
11:15 - 11:23	**ID:63 - AI-Powered Diagnostic Tool for Bone Mass Identification and Histological Prediction**	**Marc Boutros** Saint Joseph University of Beirut -Clinical Research-
11:23 - 11:31	**ID:64 - To Biopsy or Not to Biopsy: A Predictive Model for Liquid Biopsy in Advanced Pancreatic Cancer**	**Fouad Attieh** Saint Joseph University of Beirut -Clinical Research-
11:31 - 11:39	**ID:137 - Imputation of Arterial Oxygen Partial Pressures using Pulse Oximetry in Surgical Patients under General Anesthesia: A Prospective Cohort Study**	**Ibrahim El Mallah - Rasha Shreim** American University of Beirut -Clinical Research-
11:39 - 11:47	**ID:80 - Effect of Music on the Comfort and Well-Being of Lebanese Women Undergoing Repeat Cesarean Section**	**Léa Abi Aad** Saint Joseph University of Beirut -Clinical Research-
11:47 - 11:55	**ID:114 - The Influence of Parental Lifestyle and Sperm Parameters on Utero-Placental Vascularization at 3 Weeks of Gestation**	**Maha Trad** Lebanese University -Clinical Research-
11:55 - 12:03	**ID:115 - Assessing Utero-Placental Vascularization at 20-24 Weeks of Pregnancy using 3DPD for the Prediction of IUGR, Premature Delivery and Preeclampsia**	**Mohammad Chamseddine** Lebanese University -Clinical Research-
12:03 - 12:11	**ID:134 - Correlation Between the Severity of Metabolic-Dysfunction Associated Steatotic Liver Disease and Coronary Artery Disease in a Sample of Lebanese Population**	**Rita El Mir** Holy Spirit University of Kaslik -Clinical Research-
12:11 - 12:19	**ID:128 - Integrating 3D Ultrasound Uterine Measurements and Vascularity into AI Models for Predicting Assisted Reproductive Technology Outcomes**	**Roua El Bizri** Lebanese University -Clinical Research-
12:19 - 12:27	**ID:145 - Recurrent Nonsense p.Trp3416* Variant in the DMD Gene Identified in Healthy Lebanese Individuals: Implications for Variant Classification and Genotype-Phenotype Correlations**	**Serena Youssef** Lebanese American University -Clinical Research-
12:27 - 12:35	**ID:3 - Evaluating the Learning Curve and Operative Time of Interlaminar and Transforminal Endoscopic Lumbar Discectomy**	**Youssef Jamaleddine** Lebanese American University -Clinical Research-

HE1

- **Location:** 1st floor, East Building, Raymond and Aïda Najjar Building
- **Time:** 11:15 – 12:35
- **Moderator:** Dr. Maissa Safieddine
- **Jury Members:** Dr. Joseph Amara, Dr. Jihane Soueid, Dr. Nada Sbeity, Dr. Rania Naoufal, Dr. Reva Matta

Time	Abstract Title	Presenter Name
11:15 - 11:23	**ID:314 - Predictors of Surgical Intensive Care Unit Admission in Patients Requiring Emergency Laparotomy**	**Bassel Hafez** American University of Beirut -Clinical Research-
11:23 - 11:31	**ID:331 - Retrospective Study on Survival in Small Cell Lung Cancer with Brain Metastases Treated with Chemotherapy ± Immunotherapy in Lebanon**	**Cyril Lebreton** Saint Joseph University of Beirut -Epidemiology & Public Health-
11:31 - 11:39	**ID:263 - Association Between Performance Tests and Global Functioning and Health in Patients with Axial Spondyloarthritis**	**Hala El Bab** Saint Joseph University of Beirut -Clinical Research-
11:39 - 11:47	**ID:286 - Chronic Kidney Disease Increases Morbidity and Mortality in Patients Undergoing Partial Nephrectomy: An NSQIP Database Study**	**Jad Najdi** American University of Beirut -Clinical Research-
11:47 - 11:55	**ID:339 - Human Papillomavirus (HPV) Vaccine Hesitancy, Knowledge, and Barriers Among Males and Fathers Compared to Females in Lebanon: Comparative Cross-Sectional Study**	**Jana Kotaich** Lebanese University -Epidemiology & Public Health-
11:55 - 12:03	**ID:312 - Infection Rates of Trans-Perineal versus Trans-Rectal Prostate Biopsy: A Middle Eastern Tertiary Center Experience—Time for a Change?**	**Mohammad Fawaz** American University of Beirut -Clinical Research-
12:03 - 12:11	**ID:323 - Knowledge and Attitude Toward Monkeypox among the Lebanese Population During the Second Wave and Their Attitude Toward Vaccination**	**Nour El Bizri** Saint Georges University of Beirut -Epidemiology & Public Health-
12:11 - 12:19	**ID:265 - Left Ventricular Strain in Pediatric Sickle Cell Disease: Insights into Subclinical Myocardial Dysfunction**	**Rana Zareef** American University of Beirut -Clinical Research-
12:19 - 12:27	**ID:303 - Shining a Light on Skin Cancer: Knowledge and Attitudes among Young Adults in Lebanon**	**Rani Hassan** American University of Beirut -Clinical Research-
12:27 - 12:35	**ID:310 - Transcranial Doppler Screening in a Cohort of Lebanese Children with Sickle Cell Disease**	**Sérrine Hawwa** University of Balamand -Clinical Research-

HE3

- **Location:** 3rd floor, East Building, Raymond and Aïda Najjar Building
- **Time:** 11:15 – 12:43
- **Moderator:** Dr. Ayman Assi
- **Jury Members:** Dr. Antoine Estephan, Dr. Chadi Fakih, Dr. Toufic Nakad, Dr. Hussein Nassereddine, Dr. Soha Yazbeck

Time	Abstract Title	Presenter Name
11:15 - 11:23	**ID: 220 - Elevated NT-ProBNP as an Indicator of Cardiac Dysfunction in Pediatric Patients During COVID-19: A Retrospective Study**	**Christophe El Rassi** American University of Beirut, Clinical Research
11:23 - 11:31	**ID: 215 - Assessment of Metabolic-Associated Steatotic Liver Disease (MASLD) in Metabolically Healthy and Unhealthy Obese in a Sample of Lebanese Patients**	**Cyril Abou Atme** Holy Spirit University of Kaslik, Clinical Research
11:31 - 11:39	**ID: 233 - Real-World Data: Implementation and Outcomes of Next-Generation Sequencing in the MENA Region**	**Rim El Annan** American University of Beirut, Clinical Research
11:39 - 11:47	**ID: 152 - Sitting Radiographs May Assist Surgeons in Selecting Fusion Levels for Posterior Spinal Fusion in AIS**	**Guy Awad** Saint Joseph University of Beirut, Clinical Research
11:47 - 11:55	**ID: 163 - Motor Cortex Stimulation via EEG-Neurofeedback Mu-Rhythm Suppression: A Novel Non-Invasive Approach for Pain Management**	**Joe Chalhoub** Saint Joseph University of Beirut, Clinical Research
11:55 - 12:03	**ID: 361 - Prevalence of Elevated Lipoprotein(a) Levels and ts Concordance with Lipid Panel Results in Adult Lebanese Patients: A Preliminary Analysis**	**Mazen Al Hammoud** Lebanese American University, Clinical Research
12:03 - 12:11	**ID: 151 - Lumbar Muscle Fat Infiltration Can Reveal Functional Impairment in Adult Spinal Deformity (ASD)**	**Ibrahim Hamati** Saint Joseph University of Beirut, Clinical Research
12:11 - 12:19	**ID: 235 - Correlates of Transfusion and Length of Stay Among Hip/Knee Arthroplasty Patients in Lebanon: Effect of Patient Blood Management Education**	**Neemet Anouti** University of Balamand, Clinical Research
12:19 - 12:27	**ID: 234 - Epidemiology and Resistance Patterns of Urinary Tract Infection Pathogens: A Three-Year Study in Eight Hospitals in Lebanon**	**Omar Khodor Jamal** Lebanese American University, Clinical Research
12:27 - 12:35	**ID: 173 - From Resistance to Response: PTPRD Co-Mutation Unlocks Immunotherapy Sensitivity in Oncogene-Addicted NSCLC**	**Fouad Attieh** Saint Joseph University of Beirut, Clinical Research
12:35 - 12:43	**ID: 153 - A New Normative Zone for Acetabular Positioning in ASD Patients**	**Marc Boutros** Saint Joseph University of Beirut, Clinical Research

University Garden Zone

ORAL PRESENTATIONS
SESSION I

Time: 09:15 - 10:15
Jury Members: Dr. Mohamad El Mokhtar, Dr. Nelly Ziade

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 337 - The Impact of Deep Brain Stimulation on Neurogenesis in Healthy and Diseased Animal Models: A Systematic Review**	**Ahmad Afyouni** Lebanese University, Basic Science & Translational
09:25 - 09:35	**ID: 133 - Hesperidin Exerts Cardioprotective Effects by Inhibiting Cardiomyocyte Hypertrophy and Fibroblast Proliferation**	**Christine Abdel Massih** Saint Joseph University of Beirut, Basic Science & Translational
09:35 - 09:45	**ID: 167 - Prediction of Kinematic Parameters Based on Radiographs and Quality of Life Scores Using Artificial Intelligence**	**Elio Mekhael** Saint Joseph University of Beirut, Basic Science & Translational
09:45 - 09:55	**ID: 127 - Translation, Cross-Cultural Adaptation, and Validation of an Arabic Version of the Asa's Survey Recommendations for Anesthesia Patients' Satisfaction**	**Fatima Serhan** American University of Beirut, Basic Science & Translational
09:55 - 10:05	**ID: 121 - Unraveling Gut Microbial Imbalances in Ulcerative Colitis: Metagenomic and Culturomic Insights from Lebanon**	**Hassan Abbas** American University of Beirut, Basic Science & Translational
10:05 - 10:15	**ID: 207 - Carrier Rates of Pathogenic Genetic Variants in Neonatal Screening Panel Genes: Exome Sequencing-Based Study of 980 Lebanese Individuals**	**Jane Aoun** Lebanese American University, Basic Science & Translational

Time: 09:15 - 10:15
Jury Members: Dr. Habib Barakat, Dr. Nada Assaf

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 359 - AI Chatbots in Male Health: Perceptions and Use Among Lebanese University Students**	**Anthony Mina** Holy Spirit University of Kaslik, Epidemiology & Public Health
09:25 - 09:35	**ID: 344 - HPV Vaccination in Lebanon: A Cross-Sectional Study Assessing the Knowledge and Perceived Barriers Regarding HPV Vaccine**	**Clara Dagher** University of Balamand, Epidemiology & Public Health
09:35 - 09:45	**ID: 352 - Comparative Analysis of 2 Validated Fertility Knowledge Scores: Artificial Intelligence Platforms vs. Lebanese Medical Students**	**Diana Bashashi** Lebanese University, Epidemiology & Public Health
09:45 - 09:55	**ID: 155 - Which Pelvic Tilt Threshold Discriminates Better on the Clinical and Functional Levels?**	**Joe Azar** Saint Joseph University of Beirut, Basic Science & Translational
09:55 - 10:05	**ID: 200 - Should Kyphosis and Lordosis Be Measured Based on Anatomical Landmarks or Inflexion Point in Adult Spinal Deformity Patients?**	**Marc Mrad** Saint Joseph University of Beirut, Basic Science & Translational
10:05 - 10:15	**ID: 252 - Is the Spine-Hip Bordeaux Classification Functionally Relevant?**	**Moustapha Rteil** Saint Joseph University of Beirut, Basic Science & Translational

Time: 09:15 - 10:15
Jury Members: Dr. Ghewa El Achkar, Dr. Zeina Kanafani

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 307 - Psychometric Evaluation of the Lebanese Arabic Version of the Ten-Item Personality Inventory**	**Anna Marina Nakhl** Lebanese University, Epidemiology & Public Health
09:25 - 09:35	**ID: 300 - Ovarian Cancer in the Middle Eastern North African Countries: A Systematic Review**	**Bechara El Khoury** Saint Joseph University of Beirut, Epidemiology & Public Health
09:35 - 09:45	**ID: 259 - Blood Donation Knowledge, Attitudes and Practice: A Cross-Sectional Study Among the General Public in Lebanon**	**Fadi Wakim** Lebanese American University, Epidemiology & Public Health
09:45 - 09:55	**ID: 358 - End of Pandemic Parental Hesitancy Toward Pediatric COVID-19 Vaccination in Lebanon**	**Sabine Shehab** American University of Beirut, Epidemiology & Public Health
09:55 - 10:05	**ID: 336 - Impact of the COVID-19 Pandemic on New-Onset Diabetes: A Comparative Analysis of Pre- and Post-Pandemic Characteristics**	**Tracy Boulos Nakhoul** Holy Spirit University of Kaslik, Epidemiology & Public Health
10:05 - 10:15	**ID: 315 - Comparative Outcomes of Peripheral Nerve Block and Spinal Anesthesia in Diabetic Foot Surgeries: A Retrospective Cohort Study**	**Sara Harakeh** Lebanese American University, Epidemiology & Public Health

- **Time:** 09:15 - 10:15
- **Jury Members:** Dr. Ghassan Nabbout, Dr. Hisham Jabbour

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 199 - Epidemiological Predictors and Risk Factors of Gastroesophageal Reflux Disease Severity: A Population-Based Study**	**Ali Yassin** Beirut Arab University, Epidemiology & Public Health
09:25 - 09:35	**ID: 202 - Mind Over Screen: A Cross-Sectional Study Examining the Mental Health and Screen Time Relationship in Lebanese University Students**	**Christina Bader** Lebanese American University, Epidemiology & Public Health
09:35 - 09:45	**ID: 255 - Implementation of the Enhanced Recovery After Surgery (ERAS) Protocol in Patients Needing Elective Colorectal Surgery in a Tertiary Hospital**	**Jean-Jul Sarrouf** Saint Joseph University of Beirut, Epidemiology & Public Health
09:45 - 09:55	**ID: 236 - Evaluation of Post-On-Call Productivity and Work Satisfaction among Healthcare Students**	**Marc El Mendelek** Saint Joseph University of Beirut, Epidemiology & Public Health
09:55 - 10:05	**ID: 239 - Evaluating the Faculty Development Program in Healthcare Professions at the Saint George University of Beirut Using the Kirkpatrick Model**	**Mayssi Mouawad** Saint George University of Beirut, Epidemiology & Public Health
10:05 - 10:15	**ID: 276 - Assessing the Physical and Mental Health of Healthcare Workers in Lebanon and Their Impact on Retention Factors: A Cross-Sectional Study**	**Sana Fakih** Lebanese University, Epidemiology & Public Health

- **Time:** 09:15 - 10:15

Jury Members: Dr. Hany Chahine, Dr. Mona Youssef

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 188 - Preventing the Unexpected: Assessing Sudden Cardiac Death Screening in Lebanese Sports Clubs**	**AbdelRazzak Moukhavesh** Beirut Arab University -Epidemiology & Public Health-
09:25 - 09:35	**ID: 353 - AI Chatbots in Female Health: Perceptions and Use Among Lebanese University Students**	**Anthony Mina** Holy Spirit University of Kaslik -Epidemiology & Public Health-
09:35 - 09:45	**ID: 126 - Factors Associated with Acute Coronary Syndrome in Trauma: A Retrospective Study Across Trauma Centers in the United States**	**Ghina Fahd** American University of Beirut -Epidemiology & Public Health-
09:45 - 09:55	**ID: 189 - Prevalence of Obstetric Violence in Lebanon and its Association with Sociodemographic and Pregnancy-Related Factors: A Cross-Sectional Study**	**Hiba EL Dinnawi** Lebanese University -Epidemiology & Public Health-
09:55 - 10:05	**ID: 230 - Acceptance and Feasibility of the Artificial Pancreas among Patients with Type 1 Diabetes in Lebanon**	**Michel Assi** Saint Joseph University of Beirut -Epidemiology & Public Health-
10:05 - 10:15	**ID: 231 - AI-Driven Automation of Medical Keyword Extraction and ICD-10 Code Association in Gastroenterology Records**	**Youssef Abou Boutros** Saint Joseph University of Beirut -Epidemiology & Public Health-

Time: 09:15 - 10:15

Jury Members: Dr. Johnny Barakat, Dr. Ola Sukkarieh

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 217 - Usage of Social Media by Lebanese Health Professionals: A Necessary Regulation?**	**Ahmad Eidou** Saint Joseph University of Beirut -Epidemiology & Public Health-
09:25 - 09:35	**ID: 181 - Impact of Physician, Family and Society on the Choice of Cesarean-Section Delivery Mode among Lebanese Females**	**Elie Dany Quangaty** Holy Spirit University of Kaslik -Epidemiology & Public Health-
09:35 - 09:45	**ID: 349 - The 2024 War Trauma's Effect on Memory, Attention, Emotional Regulation, and Aggression in Lebanese Civilians**	**Hala Thaalibi** Beirut Arab University -Epidemiology & Public Health-
09:45 - 09:55	**ID: 140 - Knowledge, Attitude and Perception to Fertility Preservation among Medical Students in Lebanon**	**Hassan Rammal** Lebanese University -Epidemiology & Public Health-
09:55 - 10:05	**ID: 110 - Knowledge and Attitude of the Population in Lebanon Toward Weight Management Medications with a Secondary Focus on Ozempic**	**Sara El Jammal** Beirut Arab University -Epidemiology & Public Health-
10:05 - 10:15	**ID: 172 - Knowledge, Attitude, Practice, and Barriers Toward Cervical Cancer Screening among Lebanese Women**	**Sara Hachem** Lebanese American University -Epidemiology & Public Health-

Time: 09:15 - 10:15

Jury Members: Dr. Esber Saba, Dr. Wafaa Takash

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 150 - Systematic Prophylactic Anticoagulation Prescription in Hospitalized Patients: A Cross-Sectional Study at *Hôtel-Dieu de France***	**Antoun Yammine** Saint Joseph University of Beirut -Epidemiology & Public Health-
09:25 - 09:35	**ID: 65 - Gene-Based Artificial Intelligence Approach Outperforms Conventional Clinical Predictors in Ovarian Cancer Prognosis**	**Fouad Attieh** Saint Joseph University of Beirut -Clinical Research-
09:35 - 09:45	**ID: 41 - Association Between Religiosity and Anxiety and Depression among University Students: A Cross-Sectional Study**	**Jackie Jane Abou Jaoude** Lebanese American University -Epidemiology & Public Health-
09:45 - 09:55	**ID: 88 - Prediction of Live Birth Rate in Intrauterine Insemination (IUI) Utilizing Computer-Aided Sperm Analysis (CASA) Parameters: A Pilot Study**	**Jana Farhat** Lebanese University -Epidemiology & Public Health-
09:55 - 10:05	**ID: 266 - Mindfulness Program as a Modulator of Stress and Pain in University Students**	**Pierre Sleiman** Saint Joseph University of Beirut -Clinical Research-
10:05 - 10:15	**ID: 70 - A New Breath: Dynamics of Respiratory Infections after the Lifting of Non-Pharmaceutical Interventions Related to COVID-19**	**Rouba Keyrouz** Saint Joseph University of Beirut -Epidemiology & Public Health-

Time: 09:15 - 10:15

Jury Members: Dr. Rony Nawwar, Dr. Georges Nicolas

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 12 - Strategic Sampling in Transperineal Prostate Biopsy: Evaluating the Benefits of Targeted Biopsy Alone vs. Targeted Plus Random Biopsy**	**Oussama Nasrallah** American University of Beirut -Clinical Research-
09:25 - 09:35	**ID: 340 - Fetal and Congenital Malformations: The Experience of a Tertiary Care Center in Lebanon**	**Christopher Massaad** Saint George University of Beirut -Clinical Research-
09:35 - 09:45	**ID: 18 - Discharge Against Medical Advice in a Private Emergency Department**	**Danielle Abou Khater** Lebanese American University -Epidemiology & Public Health-
09:45 - 09:55	**ID: 98 - Gastric Thickening Found on Abdomino-Pelvic CT Scan and Their Endoscopic Correlation**	**Elie Raad** Saint Joseph University of Beirut -Epidemiology & Public Health-
09:55 - 10:05	**ID: 321 - Attitude of Parents in Lebanon on Seeking Medical Care for Their Children from the Pharmacist**	**Nour Wehbi** Beirut Arab University -Clinical Research-

ORAL PRESENTATIONS
SESSION I

Time: 09:15 - 10:05
Jury Members: Dr. Charbel Yazbeck, Dr. Najat Fares

Time	Abstract Title	Presenter Name
09:15 - 09:25	**ID: 55 - Treatment of Epilepsy in Times of Crisis: The Physician's Perspective**	**Aline Safa** Saint Joseph University of Beirut -Epidemiology & Public Health-
09:25 - 09:35	**ID: 320 - Anesthetic Challenges in Hybrid Warfare: Insights from the Lebanon Pager Explosions**	**Dareen Jammoul** Lebanese American University -Clinical Research-
09:35 - 09:45	**ID: 308 - Lower Liver Iron Burden Associates with Increased Time Since Last Transfusion in Episodically Transfused Chelation-Naïve Sickle Cell Patients**	**Khaled Baroudi** University of Balamand -Clinical Research-
09:45 - 09:55	**ID: 357 - Thyroid Immune-Related Adverse Events Following Immune Checkpoint Inhibition Treatment in Cancer Patients – A Retrospective Cohort Study**	**Rony El Haveck** Saint Joseph University of Beirut -Clinical Research-
09:55 - 10:05	**ID: 348 - Sleep Disturbances in Families of Cancer Patients Receiving Palliative Care: A Hidden Burden**	**Christopher Ainati** Saint Joseph University of Beirut -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Hisham Abdel Nour, Dr. Joseph Maarawi

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 216 - Uterine Artery Doppler Parameters Vary Significantly Among Infertile Women with Different Perceived Stress Levels During Ovarian Stimulation**	**Ghiwa Fakih** University of Balamand -Clinical Research-
11:25 - 11:35	**ID: 316 - Beyond the Curve: Sexual and Psychological Health after Adolescent Idiopathic Scoliosis Treatment**	**Hilda Habib** Lebanese American University -Clinical Research-
11:35 - 11:45	**ID: 317 - Androgen Receptor Inhibitors in Non-Metastatic Prostate Cancer and Bone Health: A Systematic Review**	**Lea Assaf** American University of Beirut -Clinical Research-
11:45 - 11:55	**ID: 52 - Effects of Discontinuing Cyclin-Dependent Kinase Inhibitors on Metastatic Breast Cancer During Lebanon's Economic Crisis**	**Nadim Elias** Saint Joseph University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 341 - Exogenous Melatonin in Intensive Care Unit (EMIC) Study: Double-Blind Randomized Controlled Trial**	**Sabrina Nasreddine** Saint Joseph University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 319 - Prenatal Diagnosis Versus Postnatal Diagnosis of Congenital Heart Disease: Experience at the American University of Beirut Medical Center**	**Sara El Arab** American University of Beirut -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Hiba El Hajj, Dr. Marie-Hélène Gannagé-Yared

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 198 - Incidence and Outcomes of Pneumonia in Patients with Subarachnoid Hemorrhage: A Nationwide Cohort Study**	**Abdo Mghames** Lebanese American University -Clinical Research-
11:25 - 11:35	**ID: 193 - Prevalence and Factors Associated with Respiratory Failure in Neonates on Bubble CPAP at a Lebanese Tertiary Care Hospital**	**Layal Salame** Beirut Arab University -Clinical Research-
11:35 - 11:45	**ID: 244 - COVID-19 Breakthrough Infections in Healthcare Settings: A Study of Vaccination Impact among Workers in a Tertiary Medical Center in Lebanon**	**Omar Jamal** Lebanese American University -Clinical Research-
11:45 - 11:55	**ID: 292 - The Relationship Between Average and Glycemic Variability and the Length of Hospitalization in Intensive Care Units: Medical, Surgical, and Cardiovascular**	**Rachad Abou Daher** Saint Joseph University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 287 - FANS Clears Kidney Stones Successfully: Does One Size Fit All?**	**Towfik Sebai** American University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 237 - Lactic Acidosis, Bicarbonate Therapy and Hemodynamics in Critically Ill Patients: Effects on Mortality**	**Zeina El Obai** Beirut Arab University -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Michael Osseis, Dr. Youssef Rizk

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 206 - Success of Lower-Cost Epilepsy Surgery in Countries with Limited Resources: Experience of a University Medical Center in Lebanon**	**Christelle Asmar** Saint Joseph University of Beirut -Clinical Research-
11:25 - 11:35	**ID: 136 - Efficacy and Safety of Oral Spironolactone for Women with Acne Vulgaris: A Systematic Review and Meta-Analysis of Randomized Placebo-Controlled Trials**	**Laura Ghanem** Lebanese University -Clinical Research-
11:35 - 11:45	**ID: 226 - NutriCare: Optimal Nutritional Support for Better Management of Patients with Breast Cancer**	**Lea Habibian** Saint Joseph University of Beirut -Clinical Research-
11:45 - 11:55	**ID: 187 - Nutritional Status: The Silent Risk of Fall in Hemodialysis Patients**	**Myriam-Ellie Dabilly** Saint George University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 162 - Clinical Spectrum of Toxocariasis: A Retrospective Study from a Tertiary Care Center in Lebanon**	**Nour El Meski** American University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 277 - Faculty-Resident Relationships, Professional Behaviors, and Psychological Safety: A Cross-Sectional Study**	**Rayan Karam, Andrea Shedid** American University of Beirut -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Lama Charafeddine, Dr. Sophie Julien

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 94 - Real-World Data on the Efficacy and Safety of Pembrolizumab in Triple-Negative Breast Cancer**	**Elio Ibrahim** Saint Joseph University of Beirut -Clinical Research-
11:25 - 11:35	**ID: 272 - Standard Versus Hyperangulated Video Laryngoscope Blades for Intubation in Neonates and Small Infants: Evaluation of the Glottic View**	**Kamar Ahbab** American University of Beirut -Clinical Research-
11:35 - 11:45	**ID: 132 - Epidemiology and Antibiotic Susceptibility of Staphylococcus Aureus in Lebanon from 2017 to 2023**	**Mariane Boulos** Lebanese American University -Clinical Research-
11:45 - 11:55	**ID: 275 - Holter ECG Monitoring in Pediatric Population: Indications, Findings, and Outcomes in a Tertiary Care Center**	**Mona Kassem** American University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 178 - A Simple and Clinically Relevant Gait Score to Evaluate Functional Impairment in ASD**	**Rami Rehayem** Saint Joseph University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 131 - Prevalence of Cardiovascular Diseases in Stages III - IV Endometriosis Patients in Lebanon: A First Lebanese Cross-Sectional Study**	**Rayane Diab** Lebanese University -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Hisham Bou Fakhreddine, Dr. Rosette Jabbour

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 113 - SGLT2 Inhibitors and Percutaneous Coronary Intervention: Do They Improve Clinical Outcomes?**	**Ali Hassan Majed** Lebanese American University -Clinical Research-
11:25 - 11:35	**ID: 174 - Prognostic and Clinical Implications of p53, KRAS Mutations, and MMR Status in Clear Cell Ovarian Carcinoma in a Lebanese Sample**	**Christine-Marie-Anne Martin** Saint Joseph University of Beirut -Clinical Research-
11:35 - 11:45	**ID: 73 - Factors Associated with Survival in Patients with Penetrating Trauma and Acute Coronary Syndromes in Trauma Centers in the United States**	**Christelle El Helou** American University of Beirut -Clinical Research-
11:45 - 11:55	**ID: 93 - Prevalence and Obstetrical Outcomes of First Trimester Vitamin D Deficiency in Lebanese Pregnant Women: A Pilot Prospective Study**	**Israa Abbas** Lebanese University -Clinical Research-
11:55 - 12:05	**ID: 363 - Knowledge and Stigmatizing Attitudes Towards Eating Disorders in Lebanon**	**Luana Jamati** Saint Joseph University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 160 - Measurement of the Cerebroplacental Ratio in the Third Trimester of Pregnancy: Establishing Normal Values in the Lebanese Population**	**Yara Kassis** Saint Joseph University of Beirut -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Karine Abou Khaled, Dr. Mona Youssef

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 53 - Exploring the Impact of an Interventional Approach to Resident Teaching in Anesthesiology Clerkships**	**Elie Saliba** American University of Beirut -Clinical Research-
11:25 - 11:35	**ID: 69 - Carotid Endarterectomy Under Regional Anesthesia: A Retrospective Comparative Analysis of Eversion and Partial Eversion Techniques**	**Joe El Hage** Saint Joseph University of Beirut -Clinical Research-
11:35 - 11:45	**ID: 92 - Effect of Smoking on Motility Types of Spermatozoa Assessed Through Computer-Assisted Semen Analysis: A Pilot Study**	**Nour Mohamad** Lebanese University -Clinical Research-
11:45 - 11:55	**ID: 76 - Hydrogen Peroxide 30% Versus Liquid Nitrogen Cryotherapy for Treating Seborrheic Keratosis: A Randomized Clinical Trial**	**Maria Soueidy** Saint Joseph University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 283 - Aromatase Inhibitor-Induced Bone Loss in Postmenopausal Women with Breast Cancer: Identification and Systematic Appraisal**	**Victor Ghazi** American University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 27 - Serological and Molecular Prevalence of Hepatitis E Virus among Blood Donors from Lebanon**	**Walid Mahmoud** Beirut Arab University -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Remi Daou, Dr. Zeina Akiki

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 91 - The Effect of Economic Crisis on the Vitamin B12 Deficiency in the Lebanese Population: A Cohort Retrospective Study**	**Batoul Kalo** Lebanese University -Clinical Research-
11:25 - 11:35	**ID: 293 - The Changing Landscape of Urinary Diversion Post Cystectomy: A 15-Year Analysis of the NSQIP Database**	**Bilal Alameddine** American University of Beirut -Clinical Research-
11:35 - 11:45	**ID: 66 - Association of CSMD3 Mutation with Response to Immune Checkpoint Inhibitors**	**Fouad Attieh** Saint Joseph University of Beirut -Clinical Research-
11:45 - 11:55	**ID: 16 - Forehead Burns Following Ash Wednesday Rituals: A Retrospective Observational Analysis**	**Joe Khodeir** University of Balamand -Clinical Research-
11:55 - 12:05	**ID: 360 - Maternal Near-Miss Cases at a Lebanese University Public Hospital: A Retrospective Analysis of Risk Factors and Outcomes**	**Nidal Hammoud** Lebanese University -Clinical Research-
12:05 - 12:15	**ID: 8 - Impact of the COVID-19 Pandemic on Breast Cancer Patient Care: Results from a Tertiary Care Center in Lebanon**	**Rami Ali Abdulbaki** American University of Beirut -Clinical Research-

Time: 11:15 - 12:15
Jury Members: Dr. Myriam El Amm, Dr. Nancy Nakhoul

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 43 - Optimizing Risk Prediction for Acquired Pressure Ulcers in the Medical ICU: "Development and Validation of the RISK Model"**	**Albert Riachi** Saint Joseph University of Beirut -Clinical Research-
11:25 - 11:35	**ID: 87 - Effects of Body Mass Index, Body Fat Percentage and Visceral Fat Mass on Uterine Artery Doppler Indices During Ovarian Stimulation**	**Hassan Barakat** Lebanese University -Clinical Research-
11:35 - 11:45	**ID: 5 - Screening for Extended Spectrum Beta-Lactamase-Producing Organisms in Colorectal and Genitourinary Tract Surgeries at a Private University Hospital**	**Omar El Tarras** Lebanese American University -Clinical Research-
11:45 - 11:55	**ID: 13 - Targeted Versus Targeted Plus Random Transperineal Prostate Biopsy in Patients with a Single Lesion on MRI: Is There Added Value?**	**Oussama Nasrallah** American University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 294 - Complications of Male Stress Urinary Incontinence Surgery: A Comparison of Urethral Sling vs Artificial Urinary Sphincter Using the NSQIP Database**	**Yara Ghandour** American University of Beirut -Clinical Research-
12:05 - 12:15	**ID: 305 - Postoperative Neurological Complications in Pediatric Cardiac Patients: The Experience at a Tertiary Care Center in a Developing Country**	**Yara Menassa** American University of Beirut -Clinical Research-

Time: 11:15 - 12:05

Jury Members: Dr. Ghewa El Achkar, Dr. Mohamad El Mokhtar

Time	Abstract Title	Presenter Name
11:15 - 11:25	**ID: 23 - Assessing Heart Rate Variability Biofeedback for Experimental Pain: A Promising Non-Invasive Pain Management Strategy**	**Celia Nehme** Saint Joseph University of Beirut -Clinical Research-
11:25 - 11:35	**ID: 11 - GLP1-RA and SGLT2-i for the Prevention or Delay of Type 2 Diabetes Mellitus Onset: A Systematic Review and Meta-Analysis**	**Farah Ghobar** University of Balamand -Clinical Research-
11:35 - 11:45	**ID: 6 - Ipsilateral Third Amputation Following Lower Extremity Index Amputation for Diabetic Foot Infection**	**Ghadi Abou Orm** Lebanese American University -Clinical Research-
11:45 - 11:55	**ID: 261 - Impact of Proton Pump Inhibitor Use on Renal Function in Kidney Transplant Recipients: A Longitudinal Cohort Study**	**Wiam Dakdouk** Saint Joseph University of Beirut -Clinical Research-
11:55 - 12:05	**ID: 111 - Efficacy and Safety of Transcatheter Versus Surgical Closure of Congenital Heart Defects in Pediatric Patients: A Systematic Review**	**Ali Hassan Majed** Lebanese American University -Clinical Research-

ORAL PRESENTATION

POSTER PRESENTATION

FRON ABSTRACTS

ORAL PRESENTATION

2

OPTIMIZING ANTIBIOTIC TREATMENT DURATION: AN UPDATED SYSTEMATIC REVIEW AND META-ANALYSIS OF 7-DAY VERSUS 14-DAY COURSES FOR BACTEREMIAS

Jacinthe Khater[1], Antonia Moubarak[1], Laura Ghanem[1], Elie Mrad[1], Ali Msheik[2]

[1] Faculty of Medical Sciences, Lebanese University, Lebanon.
[2] EMDM, Lebanon.

Abstract Body

Background: Bloodstream infections are associated with significant morbidity and mortality and are a common cause of hospitalizations. The optimal duration of antibiotic therapy is still controversial, and prolonged therapy increases drug resistance, healthcare costs, and medication-associated side effects.

Materials and Methods : This comprehensive review was conducted following PRISMA-NMA guidelines. The initial search included the Cochrane Library, PubMed, and Embase databases from inception to December 31, 2024. This meta-analysis was registered on PROSPERO: CRD42025633910. The primary outcome was all-cause mortality. Secondary outcomes incorporated clinical cure, recurrence, and adverse events.

Results: Out of 3,178 potential articles, 4 randomized controlled trials (RCTs) were included, with 4,794 patients. The most common source of bacteremia was from urinary tract infections (UTIs). The pooled odds ratio (OR) for the primary outcome was 0.92 (95% CI: 0.78–1.08) (p = 0.30) indicating no statistically significant difference between the 7-day and the 14-day course of antibiotics in terms of mortality. Clinical cure was assessed only in 3 RCTs, the pooled OR was 1.18 (95% CI: 0.9-1.55) (p = 0.24) indicating no statistical significance between the 2 treatments. The pooled OR for relapse of bacteremia was 1.15 (95% CI: 1.08-1.66) (p = 0.45) also demonstrating no statistical significance.

Conclusions: A 7-day was non-superior to a 14-day antibiotic course for uncomplicated and controlled bacteremia in terms of all-cause mortality, clinical cure, relapse of bacteremia, acute kidney injury, allergy, opportunistic Clostridium difficile infection, liver injury, readmission.

Impact Statement: This updated systematic review and meta-analysis of a 7-day vs. 14-day antibiotic regimen aims to determine the efficacy and safety of a short-course (7-day) versus long-course (14-day) antibiotic therapy for bloodstream infections (BSIs) and therefore improve clinical decision-making in terms of clinical impact and cost-effectiveness ratio.

Abstract Category

Clinical Research

3

EVALUATING THE LEARNING CURVE AND OPERATIVE TIME OF INTERLAMINAR AND TRANSFORAMINAL ENDOSCOPIC LUMBAR DISCECTOMY

Youssef Jamaleddine[1], Ahmad Haj Hussein[1], Mohamad Omar Honeine[1], Elio Daccache[1], Sarah El Hajjar[1], Ramzi Moucharafieh[2], Nizar Natout[3], Mohammad Badra[2]

[1] LAU Gilbert and Rose-Mary Chagoury School of Medicine, Lebanon.
[2] University of Balamand Faculty of Medicine and Medical Sciences, Lebanon.
[3] Clemenceau Medical Center, Lebanon.

Abstract Body

Background: Lumbar disc herniation is common in spine surgery, and endoscopic lumbar discectomy (ELD) offers a minimally invasive alternative with reduced complications. However, the learning curve of ELD, particularly between interlaminar and transforaminal techniques, remains a challenge.

Materials and Methods: A single-center retrospective study of 376 patients who underwent ELD between January 2013 and March 2024. In the cohort, 319 were in the interlaminar group and 57 in the transforaminal group. The learning curves were analyzed by CUSUM. The data regarding surgical technique, operative time, and postoperative outcomes were analyzed. Institutional Review Board (IRB) approval from the Ethics Committee of Clemenceau Medical Center was acquired (Ref: ERRC/RMRR/01/2024).

Results: The learning curve reached a plateau at 50 cases for the interlaminar technique and 23 cases for the transforaminal technique. Operative time was significantly lower for the transforaminal approach compared to the interlaminar approach: 69.18 ±28.85 minutes versus 78.71 ± 28.86 minutes, p = 0.022. A second learning curve could not be demonstrated for the interlaminar approach in the long term. Operative time was variably influenced by factors such as age, gender, and level of the herniated disc between the two techniques.

Conclusions: Both the interlaminar and transforaminal ELD approaches are minimally invasive techniques with different learning curves. The transforaminal approach shows a steeper learning curve and shorter operative time. The interlaminar approach did not show a second learning curve in the long term.

Impact Statement: This study highlights the differences in learning curves between interlaminar and transforaminal ELD, providing valuable insights for surgical training programs. It suggests that the transforaminal approach may be mastered more quickly. It shows the factors that influence learning curves, which can help tailor training strategies, optimize patient outcomes, and reduce operative times, ultimately contributing to the advancement of minimally invasive spine surgery.

Abstract Category

Clinical Research

4

EFFECT OF PATIENT'S CHARACTERISTICS AND SURGICAL TECHNIQUE ON THE PATIENT OUTCOMES AND SATISFACTION AFTER ENDOSCOPIC LUMBAR DISCECTOMY

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Abstract Body

Background: Percutaneous endoscopic lumbar discectomy (PELD) is a minimally invasive surgical technique for the treatment of lumbar disc herniation. Despite its growing popularity, limited research has explored the influence of patient characteristics and the choice of technique on postoperative outcomes and patient satisfaction.

Objective: To investigate the impact of patient characteristics and surgical technique (interlaminar vs. transforaminal) on surgical outcomes and patient satisfaction following PELD.

Methods: A retrospective analysis was conducted on 177 patients who underwent PELD (53.1% males, mean age = 46.11 ± 14.2 years), including 147 patients with the interlaminar approach and 30 with the transforaminal approach. Demographic data, preoperative clinical features, surgical technique, intraoperative and postoperative complications and complaints, patient-reported outcomes (disability, quality of life, satisfaction), and revision surgery rates were documented and analyzed. The mean follow-up duration was 5.55 years ± 2.73 years. IRB approval was acquired from Clemenceau Medical Center.

Results: No significant differences were observed in demographics, preoperative status, or postoperative complaints and complication rates between the two surgical techniques, except that the transforaminal technique showed a higher incidence of dural tear and persistent muscle weakness ($p = 0.028$ and $p = 0.046$, respectively). Both techniques led to excellent patient-reported outcomes with no significant differences. Total patient satisfaction with PELD was 93.8%, which positively correlated with the absence of complications and complaints, and negatively with persistent back pain, recurrent herniation, and revision surgery.

Conclusions: Interlaminar and transforaminal PELD are both effective and safe minimally invasive surgical techniques for the treatment of lumbar disc herniation, with a high patient satisfaction rate. Further prospective studies are warranted to confirm these findings.

Impact Statement: This study demonstrates that both interlaminar and transforaminal PELD are effective and safe, with high patient satisfaction, which is closely linked to the absence of complications and recurrent symptoms. These findings can help guide surgical decision-making in minimally invasive spine procedures.

Abstract Category

Clinical Research

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THE EPIDEMIOLOGICAL AND ONCOLOGICAL PROFILE OF GASTROINTESTINAL STROMAL TUMORS IN THE LEBANESE POPULATION: A BI-INSTITUTIONAL COHORT

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Abstract Body

Background & Purpose: This study represents the first-ever form of GIST registry in Lebanon. It aims to describe and compare the Lebanese cohort of GIST cases and their management with the findings of international reports.

Materials and Methods: This is a bi-institutional retrospective study of GIST cases diagnosed at AUBMC and HHUMC between the years 1996 and 2017. The study describes the epidemiological and clinical profiles of patients and tumors as well as oncological outcomes.

Results: The database includes 106 GIST cases with a median age of 63.5 years. The prevalent tumor size in females was between 5-10cm, while in males it was between 2-5cm. The most common cell type identified was spindle cell. CD117 and CD34 were positive in 91% and 78% of the cases, respectively. Metastasis on presentation was present in 16% of the cases. Only 14.7% of the cases received neoadjuvant therapy in the form of chemo- or targeted therapy, while 31% received adjuvant treatment in either form. For subjects who received adjuvant imatinib or sunitinib, the median tumor size was 8.8cm. 97.7% of patients who underwent surgery, either by laparotomy (66%) or laparoscopy (34%), had negative surgical margins. Recurrence occurred in 18.7% of cases. Overall survival was 87% over a follow-up period of 14 years.

Conclusions: Findings from this collaborative study add to the international epidemiology of GIST. It also shows that GIST features and medical and surgical practices in Lebanon conform with those reported in other populations.

Abstract Category

Clinical Research

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COMPARATIVE ANALYSIS OF SURGICAL FIXATION TECHNIQUES FOR PEDIATRIC ODONTOID FRACTURES: A SYSTEMATIC REVIEW

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Abstract Body

Background: Pediatric odontoid fractures are significant due to their impact on cervical spine stability and the unique anatomical challenges in children. These fractures often occur through the synchondrosis cartilage between the odontoid process and the axis body, especially in children under eight years old. While conservative management is preferred for stable fractures, surgical intervention is necessary for instability or neurological compromise. This review evaluates anterior, posterior, and combined fixation techniques for pediatric odontoid fractures, addressing the lack of comparative data on outcomes and complications.

Material and Methods: A PRISMA-based review identified 1,497 studies, with 8 meeting inclusion criteria after screening. Studies were assessed for quality using the Joanna Briggs Institute checklist, and data on demographics, fracture types, surgical techniques, fusion rates, and complications were analyzed.

Results: Among 62 pediatric cases, posterior approaches were most common (66.1%), followed by anterior (27.4%) and combined (6.5%) techniques. Fusion rates were highest with combined approaches (100%), followed by posterior (92.7%) and anterior (88.2%). However, the posterior approach had the highest complication rate (43.9%), including infections, persistent symptoms, and failed fusion. Combined approaches showed superior outcomes with no complications, while anterior techniques, though effective in select cases, included one mortality.

Conclusion: This review highlights the superior outcomes of combined approaches for complex pediatric odontoid fractures, achieving 100% fusion with no complications. Posterior techniques remain reliable but require advancements in technique and postoperative care to reduce complications. High-quality, multicenter studies are essential to establish standardized management protocols and assess long-term outcomes.

Impact Statement: This systematic review provides critical insights into the optimal surgical strategies for managing odontoid fractures in children. Given the unique anatomical and biomechanical challenges in the pediatric cervical spine, our study synthesizes existing evidence to evaluate the efficacy, safety, and long-term outcomes of various fixation techniques.

Abstract Category

Clinical Research

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KNOWLEDGE, PERCEPTIONS, ATTITUDES, AND BEHAVIORS OF HEALTHCARE WORKERS REGARDING BLOOD AND BODY FLUID EXPOSURE IN A TERTIARY MEDICAL CENTER

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Abstract Body

Background: Blood and body fluid exposure is a serious risk in healthcare, often due to injuries from contaminated sharps, leading to diseases like Hepatitis B and C. Compliance and reporting remain low despite safety measures. The COVID-19 pandemic improved infection control practices, particularly PPE use, and heightened infection transmission awareness. Our study aims to assess healthcare workers' (HCWs) knowledge, perceptions, attitudes, and behaviors regarding BBFE, identify predictors of BBFE and failure to report it, and compare these parameters before and after COVID-19.

Methodology: This cross-sectional study utilized survey data collected from HCWs at AUBMC using an anonymous LimeSurvey during two time periods—2013-2014 and 2023-2024. Data included demographics and assessments of knowledge, perception, and attitudes and behaviors toward BBFE. The data was analyzed using chi-square, the independent samples t-test, and regression analysis. Separate analyses were performed for different staff categories to account for variations in exposure and training.

Results: BBFE was reported by 31.1% of HCWs, with significant differences across roles ($p < 0.001$). Exposure and BBFE reporting did not differ between pre- and post-COVID cohorts. A low attitude/behavior score was a significant predictor of BBFE incidents among students, residents, and nurses ($p = 0.013$, aOR = 0.66), and a low perception score was a significant predictor of failure to report incidents ($p < 0.001$, aOR = 0.21) in the same group.

Conclusion: Obstacles like fear of career impacts and procedural issues may still hinder full reporting. Knowledge alone did not ensure better safety practices, but HCWs' perceptions and attitudes influenced BBFE reporting and occurrence.

Impact Statement: The study calls for a comprehensive approach that addresses both perceptual and procedural barriers to improve safety and reporting, especially in the post-COVID-19 context, where stronger interventions are still needed.

Abstract Category

Clinical Research

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RETHINKING DURAL TEARS: DO MINIMALLY INVASIVE TECHNIQUES OUTPERFORM OPEN SURGERY?

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Abstract Body

Background: Incidental durotomies (IDTs) are recognized complications in spinal surgery, yet there is no clear consensus on whether outcomes differ significantly between minimally invasive spine surgery (MISS) and open spine surgery (OSS), particularly with early mobilization protocols.

Objective: This systematic review compares IDT-related outcomes in MISS versus OSS, focusing on length of stay (LOS), complication rates, and reoperation rates.

Methods: A systematic review was conducted following PRISMA guidelines, searching PubMed, Embase, and Cochrane databases through October 2024. Study quality was assessed using modified Sackett's criteria. Twelve studies met inclusion criteria, consisting of 1 Level I study, 3 Level II studies, and 8 Level IV studies. Descriptive analyses included unpaired t-tests and chi-squared tests.

Results: A total of 832 patients were analyzed (653 OSS, 179 MISS), all mobilized within 24 hours postoperatively. Dural repairs were performed in 95% of OSS cases and 98% of MISS cases. MISS patients had a shorter LOS (2.0 ± 1.8 vs. 5.7 ± 2.9 days, $p = 0.0617$). Minor complications were significantly lower in MISS (2.2%) vs. OSS (6.0%) ($p = 0.0454$), while major complications were similar ($p = 0.2849$). MISS required fewer primary repairs (3.5 ± 1.1 vs. 4.2 ± 1.3, $p = 0.0283$) and had lower reoperation rates (5.6% vs. 8.5%, $p < 0.001$). Follow-up was slightly shorter in MISS (9.1 ± 1.7 vs. 10.5 ± 2.6 months, $p = 0.0170$).

Conclusion: MISS is associated with fewer minor complications, lower reoperation rates, and reduced primary repairs, making it a preferable approach for IDT management with better recovery outcomes.

Impact Statement: This study underscores the potential recovery benefits of MISS for IDT management, supporting its role in optimizing postoperative outcomes, reducing reoperations, and facilitating early mobilization in spinal surgery.

Abstract Category

Clinical Research

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ANALYSIS OF THE HISTOPATHOLOGICAL, MOLECULAR, AND PROGNOSTIC CHARACTERISTICS OF BREAST CANCERS DIAGNOSED DURING PREGNANCY

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Abstract Body

Pregnancy-associated breast cancer (PABC) is a rare form of breast cancer diagnosed during pregnancy or up to one year postpartum. This retrospective study aims to examine the clinical, histopathological, and prognostic characteristics of patients with PABC, comparing them to premenopausal patients diagnosed with breast cancer. This retrospective study was conducted at HDF, including 12 patients with pregnancy-associated breast cancer (PABC) and 21 control patients between 2017 and 2025. Clinical, histopathological, and molecular data were collected. Disease-free survival (DFS) was analyzed using the Kaplan-Meier method and the log-rank test, with a significance threshold set at $p < 0.05$. Analyses were performed in Python using the Lifelines and SciPy libraries. The mean age of diagnosis for PABC patients was 35.1 years. The primary mode of presentation was a palpable mass (91.7%) with an average size of 2.45 cm and nodal involvement in 75% of cases. Invasive ductal carcinoma was the most common histological type (83.3%). At the time of diagnosis, patients exhibited advanced histological grades (Grade II: 58.3%, Grade III: 41.7%). The proportion of HER2-positive tumors was high (58.3%) in the PABC group, with 58.3% of patients having hormone receptor-negative tumors (ER-/PR-). The median disease-free survival (DFS) for PABC patients was 20 months. DFS was significantly lower for patients diagnosed during postpartum (median: 12 months) compared to those diagnosed during pregnancy (median: 48 months). However, there was no statistically significant difference in DFS between PABC patients and non-PABC patients (median DFS: 53 months) ($p = 0.064$).

Conclusion: PABC is diagnosed at a younger age, is predominantly invasive ductal carcinoma, and presents at a more advanced stage with an aggressive immunohistochemical profile (ER-/PR- and HER2-positive), leading to a reduced median disease-free survival. However, this difference is not statistically significant compared to breast cancer in young premenopausal women not associated with pregnancy.

Abstract Category

Clinical Research

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IMPACT OF SURGERY FOR MID-LOW RECTAL CANCER: ANALYSIS OF DEFECATORY, URINARY, AND SEXUAL DISORDERS IN AN OBSERVATIONAL CROSS-SECTIONAL STUDY

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Abstract Body

Introduction: Total mesorectum excision (TME) is the standard treatment for mid and low rectal cancer. Although effective oncologically, this procedure leads to functional sequelae affecting defecation, urinary function, and sexual function. This study aims to assess these complications and their associated factors.

Materials and Methods: A cross-sectional study was conducted, including 32 patients who underwent surgery between 2018 and 2023. Functional evaluation was based on the following validated scores: LARS (defecatory disorders), IPSS (male urinary function), UDI-6 (female urinary function), IIEF-5 (erectile dysfunction), and FSFI (female sexual function). Results were compared based on anastomosis type, neo-adjuvant treatment, surgical technique, and postoperative duration. This study was approved by the Ethics Committee of the Saint Joseph University of Beirut.

Results: Low anterior resection syndrome (LARS) was common (37%), worsened by radiotherapy and less pronounced after side-to-end anastomosis ($p = 0.04$). 72.2% of men experienced mild urinary symptoms, with no cases of severe dysfunction. No woman had severe urinary impairment. Sexual dysfunction affected 92.3% of women and 66.6% of men.

Conclusion: Rectal cancer surgery significantly impairs anorectal and sexual function, particularly in women. Side-to-end anastomosis appears to be associated with a lower prevalence of LARS. A multidisciplinary approach and prospective studies are needed to optimize postoperative functional recovery.

Impact Statement: This study demonstrates the significant impact of total mesorectum excision (TME) on anorectal, urinary, and sexual functions, highlighting the influence of radiotherapy and anastomosis type. These findings support tailored multidisciplinary management and rehabilitation strategies to enhance functional recovery and quality of life for rectal cancer patients.

Keywords: Mid and low rectal cancer, TME (total mesorectum excision), LARS (low anterior resection syndrome), urinary dysfunction, sexual dysfunction, colorectal/coloanal anastomosis.

Conflict of Interest: The authors declare no conflicts of interest related to this study.

Abstract Category

Clinical Research

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IS PELVIC FIXATION A RISK FACTOR FOR PELVIC INCIDENCE CHANGE AFTER SURGERY FOR ADULT SPINAL DEFORMITY? A RETROSPECTIVE ANALYSIS

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Abstract Body

Background: In Adult spinal deformity (ASD), restoring sagittal spinal alignment can positively modify the quality of life in patients postoperatively. Restoring this alignment is based on the measurement of the pelvic incidence (PI) which was postulated to be a constant value specific to each person. However, the literature has recently shown that this pelvic parameter can change after ASD surgery.

Methods: This is a retrospective multicenter study of 290 patients who have undergone ASD surgery between 2012 and 2022. These patients were divided into two groups: group A, who received pelvic fusion, and group B, who did not. Postoperative PI change was defined by an absolute difference of 6° between pre- and postoperative values. Furthermore, patients were divided into 3 groups preoperatively based on their PI: low (<40°), medium (40°-60°), and high (>60°).

Results: Of the patients in group A, 80.0% had a change in PI compared to 12.8% in group B (odds ratio = 27.2 [13.8; 53.5], p < .001). Furthermore, this change occurred more frequently in males when compared to females (p = 0.02). In addition, a logistic regression model controlling for gender, preoperative PI groups, the change in lumbar lordosis and sacral slope, and pelvic fixation showed that only the latter predicted the postoperative change in PI, with an adjusted odds ratio of 26.3.

Conclusion: In our cohort, 32.1% of the patients operated for ASD had a postoperative change of PI of 6°, which was well within the reported range in the literature. Moreover, pelvic fusion was found to be the only independent risk factor for PI change with an adjusted OR of 26.3.

Impact Statement: This change may need to be taken into account in preoperative PI-based planning.

Abstract Category

Clinical Research

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IMPACT OF SCREEN EXPOSURE ON LANGUAGE AND COMMUNICATION DISORDERS IN CHILDREN REFERRED TO NEUROPEDIATRICS: ASSESSMENT USING A SIMPLIFIED CARS SCORE

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Abstract Body

Background: Autism spectrum disorders (ASD) are neurodevelopmental conditions characterized by communication deficits and restricted behaviors. While genetic origins have been extensively studied, environmental influences, such as early stimulation in children, remain central. During the early years, the brain is particularly sensitive to external experiences, influencing the cognitive and social development of children with ASD. This study aims to describe the characteristics of a Lebanese population of children with ASD (gender, age at diagnosis, parental consanguinity, attendance at daycare, type and duration of screen exposure) and to assess the severity of symptoms according to screen exposure.

Materials and Methods: The study included 166 children aged 1 to 10 years, referred for communication disorders at *Hôtel-Dieu de France* between 2023 and 2024. Data collected included the daily duration of screen exposure, divided into three groups: A (0-3 hours), B (3-8 hours), and C (>8 hours). A simplified CARS score (20 points) was used to assess symptom severity.

Results: The majority of children studied were male, had no younger siblings, and spent more than 8 hours per day in front of screens. Group C showed significantly higher CARS scores (median = 16) compared to Group A (median = 15, p = 0.038).

Conclusion: A significant correlation was observed between screen exposure duration and the severity of autistic symptoms. Although this correlation remains associative, it highlights the importance of preventive measures to reduce early screen exposure and the need for further studies to establish causality.

Impact Statement: This study identifies a significant correlation between screen exposure duration and autism symptom severity in children. The findings emphasize the need for preventive measures to limit early screen time and highlight the necessity of further research to establish causality and guide public health recommendations.

Abstract Category

Clinical Research

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BUILDING RESILIENT HEALTHCARE SYSTEMS: INTEGRATING PLANETARY HEALTH EDUCATION IN THE FACE OF CLIMATE CHALLENGES – PERSPECTIVES FROM LEBANON

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Abstract Body

Background: To achieve "Climate-Resilient Health Systems," the WHO has developed an operational framework consisting of ten components, one of which is climate-competent healthcare personnel. Therefore, the "One Sustainable Health" project launched a pilot survey to study the climate competencies of future healthcare professionals with the ultimate objective of setting up improvement projects in this domain.

Methods: In this cross-sectional study, an anonymous self-administered questionnaire was distributed to students enrolled in healthcare professions training programs at 10 universities in Lebanon. The questionnaire measured the three components of Knowledge, Attitude, and Perceptions (KAP) regarding interpersonal, technical, academic, and research competencies. These competencies were selected based on existing frameworks. Statistical analysis was conducted in two steps: descriptive statistics followed by inferential statistics.

Results: Among the 206 valid responses from 18 health profession programs, the average age of participants was 22.67 years (SD = 5.459), and 64.6% were females. Overall, 86.4% demonstrated satisfactory climate knowledge, and 71.8% expressed positive attitudes. In terms of climate action, only 57.3% reported engaging in concrete initiatives, predominantly at the individual level (95.8%). Logistic regression analyses revealed that the healthcare specialty was a significant predictor of positive attitudes ($X^2 = 14.8$, $p < 0.05$) and involvement in climate actions ($X^2 = 20.31$, $p < 0.001$). Additionally, climate actions were influenced by the attained degree. Students in medicine, paramedical fields, public health, and pharmacy, as well as those with master's or doctoral degrees, demonstrated the most favorable attitudes and practices toward climate change.

Conclusion: Although knowledge and attitude were satisfactory, engagement in climate action was insufficient among future health professionals.

Impact Statement: Integrating planetary health into healthcare training programs is imperative to equip future professionals with the skills and knowledge necessary to address the growing health challenges of climate change, with a priority for actionable and sustainable outcomes.

Abstract Category

Epidemiology & Public Health

63

AI-POWERED DIAGNOSTIC TOOL FOR BONE MASS IDENTIFICATION AND HISTOLOGICAL PREDICTION

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Abstract Body

Background: Definitive diagnosis of primary bone tumors can be challenging and often requires invasive procedures. Additionally, identifying the primary or secondary bone tumors can sometimes be burdensome and labor-intensive [1]. Furthermore, imaging patterns have been identified for specific histological types [2]. This study aimed to develop an AI tool to accurately predict the histological type of bone masses using radiographic images (X-ray, CT, MRI).

Materials and Methods: The study included patients with pathologically confirmed bone masses who underwent X-ray, CT, or MRI imaging, along with a control group for comparison.

Results: The dataset included 4,700 images of bone masses— comprising primary bone tumors (63.44%) and secondary bone tumors (36.56%)—alongside 4,800 control images from *Hôtel-Dieu de France*. A neural network was developed in Python, trained on 80% of the data, and validated on the remaining 20%. The AI tool was trained to first localize the bone mass on radiographic images (X-ray, CT, MRI). It then classified the mass as either primary, secondary, or multiple myeloma. The AI then determined the histological type of the primary bone tumor or the origin of the bone metastasis. Validation of the model showed a promising 72% mean average precision, 75% specificity, and a sensitivity of 80% .

Conclusion: This study is the first to develop an AI tool that localizes bone masses and predicts their histological type from imaging, potentially eliminating the need for a biopsy and aiding in the precise diagnosis of secondary bone tumors with unidentified origins.

Impact Statement: This study introduces the first AI-based diagnostic tool capable of localizing bone masses and predicting their histological type from radiographic images. By potentially reducing reliance on invasive biopsies, this approach enhances diagnostic precision and streamlines clinical management of primary and secondary bone tumors.

References: [1]Piccilio et al., 2015 [2]Priolo et al., 1998

Abstract Category

Clinical Research

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TO BIOPSY OR NOT TO BIOPSY: A PREDICTIVE MODEL FOR LIQUID BIOPSY IN ADVANCED PANCREATIC CANCER

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Abstract Body

Background: Monitoring circulating tumor DNA (ctDNA) clearance offers a cutting-edge approach to predicting treatment response. However, the high cost of liquid biopsy underscores the need for predictive tools that can identify patients most likely to benefit from ctDNA testing. This pilot study aims to develop a model to predict ctDNA positivity in liquid biopsy for pancreatic cancer.

Methods: Adult patients with locally advanced or metastatic pancreatic adenocarcinoma were included from *Hôtel-Dieu de France*, and clinical parameters were collected (Ethics Committee approval number: CEHDF2368). A blood draw established genetic ctDNA profiles (KRAS, NRAS, BRAF) and inflammatory biomarkers (CRP, RBC, Hemoglobin, MCV, Hematocrit, Platelets, WBC, Lymphocytes, Neutrophils, Eosinophils, Monocytes). After assessing which biomarkers were correlated with ctDNA positivity, a predictive algorithm was developed to determine the patients who were fit for ctDNA clearance surveillance. Based on the established algorithm, an online tool for predicting ctDNA positivity was created to aid physicians in their clinical decisions.

Results: Twenty-three patients were included in the study, with 40% testing positive for KRAS ctDNA. Patient characteristics were matched between ctDNA-positive and -negative groups. Hemoglobin, Platelets, WBC, and Neutrophils demonstrated statistically significant differences ($p < 0.05$) and correlations ($r^2 > 0.25$), leading to their selection for establishing the predictive score. A multivariable analysis yielded an equation predicting ctDNA positivity with an AUC of 0.953. The Youden Index determined a 70% optimal cut-off. A tool, "CTDNA Outcome in Metastatic Pancreatic Adenocarcinoma Screening Score (COMPASS)," was developed as a user-friendly website to assist clinicians in biopsy decisions.

Conclusion: This pilot study demonstrates the feasibility of a predictive model for guiding liquid biopsy decisions. The slightly lower ctDNA positivity rate observed compared with the literature warrants further investigation.

Impact Statement: This is the first study to develop a predictive model for accurately identifying pancreatic cancer patients who would benefit from liquid biopsy surveillance.

Abstract Category

Clinical Research

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ASSESSING THE ROLE OF CHATGPT AND AI IN MEDICAL EDUCATION: USAGE, PERCEPTIONS, AND FUTURE DIRECTIONS

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Abstract Body

Background: ChatGPT is increasingly used in medical education, mainly for searching and summarizing information. However, its effectiveness in training remains unclear. This study explores medical students' familiarity, usage patterns, and perspectives on integrating AI into their education.

Materials and Methods: A cross-sectional survey was conducted among 365 medical students (4^{th}–7^{th} years) at the Saint Joseph University of Beirut. The questionnaire assessed students' knowledge, applications, and opinions on AI in medical training.

Results: Out of 365 students, 215 (59%) responded. 98.6% were aware of ChatGPT, and 88.8% used the free version. 80% reported daily or weekly use, mainly for information retrieval, while only a few applied it to clinical practice. 67% had never used ChatGPT for clinical case simulations, and 85.6% never relied on it for decision-making. A significant 94.4% had no formal AI training. Younger students used it more frequently, while older students were more hesitant. 88% supported AI integration in medical education, though 75.8% did not believe AI could replace human clinical judgment.

Conclusions: ChatGPT is widely recognized among medical students but is primarily used for information retrieval rather than clinical decision-making. Concerns about accuracy and the lack of formal training limit its use. AI-focused education in medical curricula could improve its effective integration while maintaining essential human elements in medicine.

Impact Statement: This study highlights the importance of structured AI education in medical training to ensure responsible and efficient use of AI tools by future healthcare professionals.

Abstract Category

Epidemiology & Public Health

80

EFFECT OF MUSIC ON THE COMFORT AND WELL-BEING OF LEBANESE WOMEN UNDERGOING REPEAT CESAREAN SECTION

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Abstract Body

Background: Repeated cesarean sections present medical and psychological challenges, increasing maternal and neonatal risks while heightening emotional stress. Anxiety is common in these patients, negatively affecting well-being. Beyond conventional relaxation techniques, music therapy has emerged as a promising approach to reduce intraoperative anxiety and enhancing postoperative recovery. This study aims to evaluate the impact of music therapy on emotional and physiological well-being in patients undergoing repeat cesarean sections, determining whether intraoperative music reduces anxiety and improves outcomes.

Materials and Methods: A total of 101 patients undergoing repeat cesarean sections were randomly assigned to a music therapy group (n = 50) or a control group (n = 51). This pilot study included three phases: preoperative data collection and music selection (T0), randomization (T1), and postoperative assessment (T2). Anxiety levels were assessed using the Hamilton Anxiety Scale (HAM-A), while physiological parameters, including heart rate and blood pressure, were recorded. Statistical analyses compared variations between groups. The study was approved by the local Ethics Committee of USJ (CEHDF 2243).

Results: Patients in the music therapy group experienced a significant reduction in anxiety compared to the control group (19.52 ± 6.85 vs. 8.51 ± 6.82; $p < 0.001$), with a greater effect on psychological symptoms. Physiological improvements were also observed, with reductions in heart rate (23.30 ± 12.41 vs. 2.45 ± 13.77; $p < 0.001$), systolic (18.74 ± 16.75 vs. 4.59 ± 11.99; $p < 0.001$), and diastolic blood pressure (13.08 ± 11.05 vs. 7.43 ± 8.71; $p = 0.005$).

Conclusions: Music therapy significantly reduces anxiety and improves physiological stability in repeat cesarean patients. Integrating music into obstetric care offers a valuable, non-pharmacological approach to enhancing maternal comfort and stress management.

Impact Statement: This study supports music therapy as a simple, cost-effective intervention to improve maternal well-being. Implementing this approach in obstetric surgery could enhance patient experience and perioperative care.

Abstract Category

Clinical Research

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ACETYLSALICYLIC ACID EXACERBATES MYOCARDIAL FIBROSIS: AN IN VIVO AND IN VITRO EXPERIMENTAL STUDY

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Abstract Body

Background: Myocardial fibrosis is a common final pathway in most cardiovascular diseases (CVD). It results in tissue remodeling due to excessive extracellular matrix deposition, leading to systolic and diastolic dysfunction. Acetylsalicylic acid (ASA) is widely used in CVD prevention and treatment. Whether it exerts direct cardiac effects and the underlying mechanisms remain unexplored. This study aims to investigate the effects of ASA supplementation on myocardial fibrosis and cardiac fibroblasts.

Materials and Methods: The study was approved by the USJ Ethics Committee (FM450). Cardiac fibrosis was induced by L-Ng-Nitro arginine methyl ester (L-NAME), a nitric oxide synthase inhibitor, in adult male Wistar rats. ASA was orally administered at a dose of 7.2mg-1kg-1day-1 for two months. Animals were assigned to four groups (n = 6 each): Sham, Sham ASA, L-NAME, L-NAME ASA. Blood pressure and cardiac functions were assessed, followed by histological, biochemical, and molecular analyses on cardiac tissue. In parallel, fibrotic signaling pathways were studied in cultured rat cardiac fibroblasts treated or not with ASA (10 microM). One-Way ANOVA/Kruskal-Wallis with post hoc tests were performed.

Results: ASA failed to improve cardiac ejection fraction, fractional shortening, and morphometric parameters in L-NAME rats ($p > 0.05$). Moreover, ASA significantly aggravated replacement and perivascular fibrosis in L-NAME rats without affecting PDGFRa+ and TCF21+ activated cardiac fibroblast populations. At the molecular level, ASA inhibited SMAD3 phosphorylation but exhibited a shift toward NFkB activation. Cultured cardiac fibroblast chronically treated with ASA showed a significant alteration in soluble collagen secretion, and collagen I/III ratios. This profibrotic phenotype was also associated with NFkB activation.

Conclusion: This study highlights for the first time that ASA could act as a profibrotic molecule, exacerbating myocardial fibrosis and NFkB activation.

Impact Statement: At the translational level, these challenging results may drive clinicians to exercise caution when prescribing ASA to CVD patients with a cardiac fibrotic component.

Abstract Category

Basic Science & Translational

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HESPERIDIN A POTENT CITRUS LAVONOID ALLEVIATES KIDNEY FIBROSIS VIA NFATC4 INHIBITION

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Abstract Body

Background: End-stage kidney disease is characterized by excessive extracellular matrix accumulation in response to numerous factors, particularly oxidative stress, leading to renal fibrosis. Currently, no targeted antifibrotic treatments exist. Hesperidin (HESP), a potent antioxidant flavonoid found in citrus fruits, is recognized for its various health benefits. Its effect on the kidney remains unexplored. The aim of this study is to assess the effect of HESP on renal fibrosis and fibroblasts.

Materials and Methods: The study was approved by the USJ Ethics Committee (FM451). Renal fibrosis was induced using a hypertensive model by administering L-Ng-Nitro arginine methyl ester (L-NAME), a nitric oxide synthase inhibitor, to adult male Wistar rats. Hesperidin methylchalcone was orally given at a dose of 50 mg-1kg-1day-1 for two months. Animals were assigned to four groups (n = 6 each): Sham, Sham HESP, L-NAME, L-NAME HESP. Blood pressure measurements were followed by histological, biochemical, and molecular analyses on renal tissue. Fibrotic signaling pathways were studied in cultured rat renal fibroblasts treated or not with the active HESP metabolite, hesperetin (1.5 microM). One-way ANOVA/Kruskal-Wallis with post hoc tests were performed.

Results: HESP attenuated hypertension ($p < 0.001$) and improved tubular atrophy and tubulointerstitial fibrosis ($p < 0.05$). Renal fibroblast population analysis revealed an increase in cortical PDGFRa+ interstitial cells ($p < 0.05$) versus a decrease in TCF21+ ones ($p < 0.01$) under HESP supplementation. At the molecular level, profibrotic TGF-beta non-canonical pathways were induced under L-NAME and inhibited under HESP ($p < 0.05$). Cultured renal fibroblasts treated with hesperetin showed a significant modulation in soluble collagen secretion associated with NFATC4 inhibition ($p<0.05$).

Conclusion: HESP seems to exhibit a renoprotective antifibrotic effect by modulating TGF-beta non canonical NFATC4 signaling and the renal fibroblast phenotype.

Impact Statement: This study highlights hesperidin's therapeutic potential in managing kidney fibrosis, paving the way for further clinical investigations.

Abstract Category

Basic Science & Translational

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VITAMIN C EXERTS A LIMITED RENAL ANTIFIBROTIC EFFECT: AN EXPERIMENTAL STUDY IN ADULT RATS

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Abstract Body

Background: Renal fibrosis is the ultimate endpoint of all chronic kidney diseases. Despite significant advances in therapeutic approaches, there is still no specific treatment. Oxidative stress is a major player in the progression of renal fibrosis. While vitamin C (VC) is highly recognized for its antioxidant properties and wide therapeutic use, its effect on fibrotic signaling pathways remains underexplored. This study aims to investigate the role of VC supplementation in renal fibrosis and fibroblasts.

Materials and Methods: The study was approved by the USJ Ethics Committee (FM451). Renal fibrosis was induced using a hypertensive model by administering L-Ng-Nitro arginine methyl ester (L-NAME), a nitric oxide synthase inhibitor, to adult male Wistar rats. L-Ascorbic acid or VC was orally given at a dose of 90 mg-1kg-1day-1 for two months. Animals were assigned to four groups (n = 6 each): Sham, Sham VC, L-NAME, L-NAME VC. Blood pressure measurement was followed by histological, biochemical, and molecular analyses on renal tissue. Fibrotic signaling pathways were studied in cultured rat renal fibroblasts treated or not with VC (70 microM). One-way ANOVA/Kruskal-Wallis with post hoc tests were performed.

Results: VC attenuated hypertension ($p < 0.0001$) and improved glomerular damage ($p < 0.05$) without affecting tubular atrophy and tubulointerstitial fibrosis. PDGFRa+ and TCF21+ activated renal fibroblast populations remained unchanged under VC supplementation. At the molecular level, profibrotic ERK1/2 was induced under L-NAME and inhibited in the presence of VC ($p<0.05$). Albeit, cultured renal fibroblasts treated with VC exhibited an attenuated fibrotic phenotype with a significant modulation in soluble collagen secretion and collagen I/III ratios. Additionally, ERK1/2 was significantly less phosphorylated under VC.

Conclusion: VC exerts a limited renal antifibrotic effect, modulating ERK1/2 signaling and the renal fibroblast phenotype.

Impact Statement: This study offers new perspectives for investigating the therapeutic potential of VC in improving renal health under pathological conditions.

Abstract Category

Basic Science & Translational

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THE INFLUENCE OF PARENTAL LIFESTYLE AND SPERM PARAMETERS ON UTERO-PLACENTAL VASCULARIZATION AT 3 WEEKS OF GESTATION

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Abstract Body

Background: From smoking to exercise and alcohol consumption, all these lifestyle habits can have an effect on the materno-fetal vascularization. The aim of this study was to evaluate the influence of parental lifestyle and spermatic parameters on 3-week gestational sac vascularization using 3D power Doppler.

Materials and Methods: A cross-sectional study was carried out at Al Hadi Laboratory and Medical Center in Beirut, Lebanon (IRB: ETC-015-2023), focusing on infertile couples undergoing intracytoplasmic sperm injection (ICSI). The study involved 122 pregnant women under the age of 38, with exclusions for those with uterine malformations or leiomyomas. Body mass index (BMI) was calculated for each participant, and participants were asked about their dietary habits, smoking, and alcohol consumption. Semen parameters were analyzed according to WHO10 criteria. The study utilized 3D vaginal power Doppler ultrasound to evaluate the blood flow around the gestational sac 3 weeks after blastocyst embryo transfer using three indices: Vascularization index (VI), Flow index (FI), and Vascularization flow index (VFI).

Results: A significant relationship was observed between endometrial VFI and female BMI ($p = 0.002$), as well as between myometrium VI and male BMI ($p = 0.037$). Concerning female BMI, the logistic regression model ß coefficient for prediction of endometrial VFI was found to be - 0.525, while ß coefficient for male BMI in the prediction of myometrial VI was shown to be 1.759.

Conclusion: These results suggest that parental BMI may influence the vascularization of the gestational sac during the 5th week of amenorrhea.

Research Impact: This is the first study to assess the impact of lifestyle and spermatic parameters on materno-fetal vascularization using 3D vaginal power Doppler. Discovering this relationship offers an opportunity to evaluate couples for significant health risks and to identify essential factors for ensuring a healthy pregnancy.

Abstract Category

Clinical Research

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ASSESSING UTERO-PLACENTAL VASCULARIZATION AT 20-24 WEEKS OF PREGNANCY USING 3DPD FOR THE PREDICTION OF IUGR, PREMATURE DELIVERY AND PREECLAMSIA.

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Abstract Body

Background: Preeclampsia (PE), intrauterine growth restriction (IUGR), and preterm birth are major pregnancy complications contributing to neonatal morbidity and mortality. Identifying reliable predictive markers for these conditions is essential for early intervention. Three-dimensional power Doppler (3DPD) has emerged as a valuable tool for assessing uteroplacental vascularization, though its predictive value in the second trimester remains insufficiently explored.

Objectives: This study aimed to evaluate the predictive potential of 3DPD vascular indices measured between 20–24 weeks of gestation for PE, IUGR, and preterm birth.

Methods: This unicentric retrospective analytical study was conducted between March 2021 and December 2024, including 400 pregnant women assessed at 20–24 weeks. Uteroplacental vascularization was evaluated using a Samsung WS80A machine, calculating three indices: vascular index (VI), flow index (FI), and vascular flow index (VFI). Maternal characteristics and pregnancy outcomes were recorded through direct questionnaires. Statistical analysis was performed using SPSS version 26, employing Spearman's correlation, Mann-Whitney tests, and multiple linear regression models.

Results: The mean maternal age was 29.92 ± 3.89 years. No significant correlation was found between vascular indices and fetal weight percentile (VI p = 0.423; FI p = 0.411; VFI p = 0.430) or gestational age at birth (VI p = 0.305; FI p = 0.244; VFI p = 0.245). Multiple linear regression also failed to identify VI, FI, or VFI as significant predictors of gestational age. The incidence of hypertensive disorders was 11.2%, with PE occurring in 8.4% of cases. VI and FI were significantly lower in PE patients (9.6 vs. 13, p = 0.013; 76.5 vs. 77.5, p = 0.025).

Conclusion: While 3DPD indices do not strongly predict IUGR or preterm birth, lower VI and FI levels were associated with PE. Larger prospective studies are needed to further explore 3DPD's potential in predicting hypertensive disorders.

Abstract Category

Clinical Research

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INTEGRATING 3D ULTRASOUND UTERINE MEASUREMENTS AND VASCULARITY INTO AI MODELS FOR PREDICTING ASSISTED REPRODUCTIVE TECHNOLOGY OUTCOMES

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Abstract Body

Objective: 3D ultrasound-derived uterine measurements and vascularity have shown promise as predictors of success in assisted reproductive technology (ART) correlating with enhanced endometrial receptivity. Despite this, inconsistent findings highlight the need for standardized parameters. Furthermore, limited research on the role of intercornual distance, cornual angles, and fundal indentations warrants further investigation. This study aimed to explore how these ultrasound-derived factors, when combined with artificial intelligence (AI), can predict ART outcomes.

Methods: This study enrolled 628 IVF patients from August 2023 to December 2024, excluding individuals with uterine fibroids, endometriosis, or advanced maternal age (>38). A total of 171 patients undergoing a single frozen blastocyst transfer were included. On the day of embryo transfer, 3D vaginal power Doppler ultrasound assessed vascular indices (VI, FI, VFI), while uterine morphology was evaluated through coronal sections measuring intercornual distance, cornual angles, uterine indentations, and isthmus-fundus length. These features, along with age and endometrial thickness, were incorporated into 10 AI classifiers, including K-Nearest Neighbors, AdaBoost, Gradient Boosting, and Artificial Neural Networks. The study was conducted in accordance with the Declaration of Helsinki and approved by ETC-022-2023 .

Results: The average age of participants was 31.58 ± 6.53 years. The AI models revealed that the Artificial Neural Network (ANN) achieved the highest accuracy (82%), followed by Support Vector Machine (80%) and Random Forest (80%). SHAP analysis identified intercornual distance as the third most important predictive factor after age and endometrial thickness.

Conclusion: Incorporating 3D ultrasound measurements, particularly intercornual distance, can enhance the identification of predictive factors related to uterine morphology and ART outcomes. However, the observational design, single-center nature, and lack of long-term follow-up data limit the study's conclusions. Further multicenter research is required to validate these findings.

Abstract Category

Clinical Research

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CORRELATION BETWEEN THE SEVERITY OF METABOLIC DYSFUNCTION-ASSOCIATED STEATOTIC LIVER DISEASE AND CORONARY ARTERY DISEASE IN A SAMPLE OF THE LEBANESE POPULATION

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Abstract Body

Background: Metabolic dysfunction-associated steatotic liver disease or MASLD is the new term replacing non-alcoholic fatty liver disease (NAFLD). The prevalence of MASLD is increasing proportionally with the rise in metabolic disorders such as obesity and constitutes a major cause of liver diseases worldwide. Recent research has consistently shown a positive correlation between MASLD and cardiovascular risk factors, particularly coronary artery disease (CAD) since both conditions share common mediators. The aim of our study was to examine the association between the severity of CAD and MASLD in a sample of Lebanese patients.

Methods: A cross-sectional study was conducted at *Notre Dame des Secours* University Hospital between January and November 2024 and included 103 patients undergoing cardiac catheterization. Patients with known secondary causes of liver disease or any history of CAD were excluded from our study. Hepatic steatosis was evaluated by ultrasound imaging and non-invasive liver fibrosis scores, FIB-4 and APRI. The presence and severity of CAD were evaluated through the Gensini score following cardiac catheterization reports. Statistical analysis used the multivariate approach to assess the correlation between MASLD and CAD.

Results: The study showed a significant correlation between moderate (ß = 14.60, p = 0.031) and severe hepatic steatosis (ß = 36.20, p < 0.001) and higher Gensini scores. However, higher cholesterol levels (ß = 0.24, p = 0.008) and age (ß = 0.62, p < 0.001) were also associated with CAD severity. Liver fibrosis markers, LDL, hypertension, and HbA1c levels did not show a significant association.

Conclusion and Impact Statement: The study shows MASLD as an independent mediator for the progression of CAD, highlighting the need for larger-scale studies to evaluate the heart-liver axis, as understanding MASLD-CAD relationship could lead to the development of cardiovascular screening modalities in patients with hepatic steatosis.

Abstract Category

Clinical Research

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IMPUTATION OF ARTERIAL OXYGEN PARTIAL PRESSURES USING PULSE OXIMETRY IN SURGICAL PATIENTS UNDER GENERAL ANESTHESIA: A PROSPECTIVE COHORT STUDY

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Abstract Body

Background and Aims: Adequate oxygenation during general anesthesia is critical for patient well-being. Monitoring oxygen saturation (SpO2) using pulse oximetry is mandatory, though it may not always reflect the actual oxygenation status, especially under certain conditions. Arterial blood gas (ABG) analysis remains the gold standard for measuring the partial pressure of oxygen (PaO2) but is invasive and limited by complications. This study aims to validate five existing equations for predicting PaO2 from SpO2 and, if applicable, to derive and validate a new equation in adult patients undergoing surgeries under general anesthesia.

Materials and Methods: A prospective cohort study was conducted on adult patients undergoing general anesthesia and requiring arterial blood gas (ABG) measurements. Bland-Altman analysis assessed the agreement between derived and measured PaO2 values using five existing equations. Regression analysis was then performed to develop a new equation for predicting PaO2, which was validated in a second cohort.

Results: During the initial phase, 150 ABG samples were collected from 83 patients. Bland-Altman analysis revealed weak agreement with all existing equations. A new logarithmic equation, El-Khatib's equation (PaO2 = 10^(-25.6) x SpO2^13.9), was derived. The validation phase involved 150 ABG samples from 65 patients, demonstrating strong agreement with El-Khatib's equation (systematic bias of 13 mmHg, limits of agreement: -189 to 214 mmHg).

Conclusion: Five existing equations for predicting PaO2 from SpO2 were not accurate in adult patients under general anesthesia. El-Khatib's equation showed strong potential for predicting PaO2, offering a reliable non-invasive alternative to determining PaO2 in clinical practice.

Impact Statement: This research validates El-Khatib's equation as a reliable, non-invasive method for predicting PaO2 from SpO2, potentially improving patient safety, reducing complications from ABG sampling, and enhancing oxygenation monitoring in anesthesia practice.

Abstract Category

Clinical Research

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RECURRENT NONSENSE P.TRP3416* VARIANT IN THE DMD GENE IDENTIFIED IN HEALTHY LEBANESE INDIVIDUALS: IMPLICATIONS FOR VARIANT CLASSIFICATION AND GENOTYPE-PHENOTYPE CORRELATIONS

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Abstract Body

Background: Duchenne muscular dystrophy (DMD) is a severe X-linked neuromuscular disorder caused by pathogenic variants in the DMD gene, leading to dystrophin deficiency and progressive muscle degeneration. To date, thousands of variants of different mutation types have been reported in DMD, each contributing to a broad clinical spectrum. While typically associated with severe phenotypes, DMD gene mutations can also result in Becker muscular dystrophy (BMD), a milder form characterized by later-onset muscle weakness, or dilated cardiomyopathy, where cardiac involvement occurs without significant skeletal muscle disease. Rare cases of asymptomatic individuals carrying putative pathogenic variants challenge traditional genotype-phenotype correlations.

Material and Methods: Three unrelated Lebanese families seeking genetic diagnosis or premarital genetic screening are included in this study. Exome sequencing (ES) was conducted.

Results: A novel nonsense variant in DMD (p.Trp3416*), was identified in exon 71 in the hemizygous state in different asymptomatic individuals from the three studied families, some of whom were above 70 years of age. The variant was classified as pathogenic based on in silico predictions and established loss-of-function mechanisms. Population frequency analysis revealed extreme rarity in genomic databases, with conflicting pathogenicity assessments in ClinVar, where it has been linked to DMD, BMD, and cardiomyopathy. Computational tools, including CADD (phred score: 52.0), Franklin, and Varsome, predicted a severe deleterious effect. Despite the presence of other truncating variants in exon 71 known to cause dystrophin loss and result in DMD, all hemizygous patients carriers of the p.Trp3416* variant in this study exhibited normal neuromuscular and cardiac function, contradicting classical DMD and BMD phenotypes. The presence of p.Trp3416* in asymptomatic individuals suggests alternative splicing, modifier genes, or compensatory mechanisms may mitigate dystrophin loss.

Conclusion: This study highlights the critical need for functional assays and longitudinal clinical assessments to refine variant interpretation and improve genetic counseling.

Abstract Category

Clinical Research

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ASSOCIATION BETWEEN GI DISORDERS AND MENTAL HEALTH: A COMPARATIVE CROSS-SECTIONAL STUDY AMONG LEBANESE PATIENTS DIAGNOSED WITH A GI DISORDER

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Abstract Body

Background: The gut-brain axis model revolves around the bidirectional interactions between the emotional and cognitive centers of the brain and the gastrointestinal (GI) functions. Gastrointestinal diseases like inflammatory bowel disease, irritable bowel syndrome, and gastroesophageal reflux disease have been shown to disrupt patients' mental health. Studies have proven that anxiety and depression are increasingly common among patients with GI disorders. However, limited research has been conducted to explore these associations within the Lebanese context.

Objectives: The primary objective of this study was to assess the association between gastrointestinal disorders and mental health issues (depression and anxiety) among the Lebanese population.

Materials and Methodology: An online survey in Arabic was distributed to patients clinically diagnosed with a GI disorder. This survey was divided into five sections: sociodemographic characteristics, anxiety scale (Generalized Anxiety Disorder - GAD-7), depression scale (Patient Health Questionnaire - PHQ-9), QoI scale (Short Form Health Survey - SF-36), and some additional questions regarding lifestyle factors and nutritional habits. A comparative cross-sectional design was employed, and the survey was also distributed to a control group of healthy individuals. Institutional Review Board (IRB) approval was obtained from the Hammond Hospital IRB (Approval No: IRB-Aug2024-IV).

Results: In a sample of participants (n = 380), where half of them were diagnosed with GI disorders and the rest were healthy controls, a significant association was found between GI disorders and mental health disorders [anxiety (p = 0.00); depression (p = 0.00)].

Conclusion: Our study found a significant association between GI disorders and both anxiety and depression.

Impact Statement: Our study emphasizes the importance of referring GI patients for psychiatric evaluation to accurately assess their symptoms and prevent the underdiagnosis of anxiety and depression, thus providing targeted treatment strategies.

Abstract Category

Epidemiology & Public Health

149

UNRAVELING A NOVEL GENE INVOLVED IN CONGENITAL HEARING LOSS: CHALLENGES IN VARIANT INTERPRETATION AND THE POWER OF LINKAGE ANALYSIS

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Abstract Body

Background: Next-generation sequencing (NGS) has revolutionized the genetic diagnosis of congenital hearing loss. However, challenges in variant interpretation persist, leading to negative results in some cases. Here, we report a consanguineous family with two children (aged 8 and 9) affected by congenital hearing loss who underwent cochlear implantation. Comprehensive exome sequencing (ES) performed on the patients had not revealed any pathogenic variant.

Methods and Results: To further investigate the genetic cause of the disease, we performed homozygosity mapping using ES data. This revealed different homozygous regions shared by the affected siblings. Further evaluations enabled the detection of a missense variant, initially classified as likely benign, in an uncharacterized gene. Gene expression analysis by real-time PCR confirmed its expression in the human inner ear. To assess its pathogenicity, a knockout (KO) mouse model was generated, revealing profound hearing impairment, thereby establishing the gene's role in auditory function.

Conclusion: This study highlights the errors and limitations in current NGS variant classification systems, particularly the misinterpretation of variants due to insufficient evidence or reliance on incomplete databases. Our findings emphasize the critical need to integrate linkage analysis with NGS, when possible, to uncover novel disease genes, particularly in consanguineous populations where homozygosity mapping can pinpoint candidate loci. By addressing these analytical pitfalls, we can refine diagnostic accuracy and expand the molecular landscape of rare diseases.

Abstract Category

Basic Science & Translational

151

LUMBAR MUSCLE FAT INFILTRATION CAN REVEAL FUNCTIONAL IMPAIRMENT IN ADULT SPINAL DEFORMITY (ASD)

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Abstract Body

Background: Fat infiltration of paraspinal muscles, mainly assessed quantitatively on MRI, has been associated with global malalignment and increased postoperative complications in ASD. However, its relationship with functional limitations has not yet been explored. While quantitative measurement of muscle fat infiltration requires specific acquisition protocols, the qualitative Goutallier classification remains underexplored in functional assessment. This study aimed to evaluate the relationship between lumbar muscle fat infiltration and functional impairment in ASD using the Goutallier classification.

Materials and Methods: 64 ASD patients underwent full body biplanar X-ray to assess spinopelvic and global alignment parameters and completed the ODI (Oswestry Disability Index) questionnaire. Patients performed 3D gait analysis to calculate joint kinematics, spatio-temporal parameters, and the Gait Deviation Index (GDI). Lumbar MRIs were collected to evaluate muscle fat infiltration using the Goutallier classification. Patients were grouped into high (High-Inf: Goutallier grades 3-4) or low-to-moderate infiltration (Low-Mod-Inf: Goutallier grades 0-2). Radiographic and kinematic parameters, as well as ODI scores, were compared between groups, and correlations with Goutallier grade were computed.

Results: Patients were grouped as 33 High-Inf and 31 Low-Mod-Inf. The High-Inf group had higher SVA (76vs22mm), PT (28vs21°), PI-LL mismatch (19vs3°) and Cobb angle (23vs14°). During gait, they had lower GDI (80vs91), walking speed (0.7vs0.9m/s) and higher thorax flexion (13vs4°). They also had higher ODI scores (47vs36). Goutallier grades positively correlated with SVA ($p=0.43$), thorax flexion during gait ($p=0.34$), and negatively correlated with walking speed ($p=-0.43$; all $p<0.05$).

Conclusions: The Goutallier classification, an easy and accessible method using routine MRI, can indicate malalignment severity and functional impairment in ASD. Thus, a high Goutallier grade should alert clinicians to the need for targeted interventions, such as muscle reinforcement, to mitigate fat infiltration and optimize outcomes in ASD patients.

Impact Statement: Lumbar muscle fat infiltration evaluated on MRI using the Goutallier classification can indicate functional impairment in ASD.

Abstract Category

Clinical Research

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SITTING RADIOGRAPHS MAY ASSIST SURGEONS IN SELECTING FUSION LEVELS FOR POSTERIOR SPINAL FUSION IN AIS

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Abstract Body

Background: Fusion level selection in adolescent idiopathic scoliosis (AIS) is traditionally based on standing radiographs, using key vertebrae such as the last-touched (LTV), last-substantially touched (LSTV), neutral (NV), and stable vertebra (SV). However, patients frequently adopt other functional postures, like sitting. This study investigates how sitting radiographs alter key parameters used in selecting the upper (UIV) and lower instrumented vertebra (LIV).

Materials and Methods: 33 Lenke 1 and 15 Lenke 5 AIS patients (mean Cobb angles: 45° and 30°, respectively) underwent low-dose biplanar X-rays in both standing and sitting positions. 3D spine reconstruction was performed to assess spinopelvic and scoliosis parameters, including LTV, LSTV, NV, SV, sagittal tilt, and disc angles. Differences between positions were analyzed.

Results: In Lenke 1 patients, 66% of LTV, 75% of LSTV, 54% of NV, and 66% of SV changed between standing and sitting. Additionally, 45% changed lumbar modifiers, with 77% of Lenke 1C cases transitioning to Lenke 1B. Sagittal tilt of NV (11° to 6°), SV (9° to 2°), and disc angles at L3-L4 (9° to 5°) and L4-L5 (16° to 6°) significantly decreased ($p < 0.001$). Apical vertebral rotation also decreased in both the thoracolumbar/lumbar and proximal thoracic curves (7° to 3° and 10° to 6°, respectively, $p = 0.01$). In Lenke 5 patients, sagittal disc angles decreased at L2-L3, L3-L4, and L4-L5 ($p = 0.01$), while sagittal distances from L3 and L4 to the C7PL were significantly reduced (4° to 0.2° and 4° to 0.3°, respectively, $p < 0.001$).

Conclusions: Sitting radiographs reveal significant biomechanical changes that may impact fusion level selection. Given the limitations of standing radiographs, integrating sitting imaging into preoperative planning could optimize surgical outcomes and reduce long-term complications.

Impact Statement: Incorporating sitting radiographs into surgical planning for AIS may improve fusion level selection and long-term outcomes by revealing positional changes not captured in standing radiographs.

Abstract Category

Clinical Research

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A NEW NORMATIVE ZONE FOR ACETABULAR POSITIONING IN ASD PATIENTS

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Abstract Body

Background: Adult spinal deformity (ASD) patients undergoing total hip arthroplasty (THA) have higher hip dislocation rates than patients with normal spinal alignment. The traditional Lewinnek safe zone for acetabular cup positioning does not account for spinopelvic alignment variations, particularly increased pelvic tilt (PT) due to pelvic retroversion in ASD. This study aims to establish patient-specific normative zones for acetabular cup positioning in ASD patients, tailored to clinical scenarios considering PT.

Methods: A multicenter retrospective analysis using a prospectively collected database of 146 ASD patients (ISSG database) and 47 asymptomatic controls (LBIM database) was conducted. Radiographic parameters, including spinopelvic alignment and acetabular orientation, were measured using 3D reconstructions from biplanar radiographs. Linear regression analyses with 95% confidence intervals defined three normative zones: Zone 1 for ASD patients without planned spinal realignment, adjusting acetabular cup positioning according to PT; Zone 2 for ASD patients post-spinal realignment surgery, adjusting positioning based on pelvic incidence (PI); and Zone 3, a common zone for patients with uncertain surgical spinal correction plans, minimizing dislocation risk pre- and post-correction.

Results: The linear regression between acetabular anteversion and PT was Anteversion (°) = 0.325PT(°) + 14.385. Normative Zone 1 was defined as: Minimum Anteversion(°) = 0.3182PT + 2.947; Maximum Anteversion(°) = 0.3317PT + 25.823. Normative Zone 2 adjusted anteversion by PI: Minimum Anteversion(°)=0.0682PI+9.7749; Maximum Anteversion(°)=0.0698*PI+21.5218. Normative Zone 3 intersected Zones 1 and 2 for uncertain surgical plans. Finally, a user-friendly website (asdacetabularsafezone.com) was developed to help clinicians determine patient-specific normative safe zones for acetabular anteversion based on PT and PI.

Conclusion: This study defines three patient-specific normative zones for acetabular cup positioning in ASD patients, addressing spinopelvic alignment variations and spinal surgical planning.

Impact Statement: Implementing these normative zones can decrease hip dislocation rates in ASD patients, who represent 90% of dislocation cases, highlighting their significance in clinical practice.

Abstract Category

Clinical Research

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UNLOCKING THE RELATIONSHIP BETWEEN PELVIC TILT AND ACETABULAR ORIENTATION IN 3D: ROLE OF PELVIC MORPHOLOGY

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Abstract Body

Introduction: Adult spinal deformity (ASD) patients undergoing total hip replacement (THR) have a higher risk of THR dislocation than the general population. Published reports have suggested that acetabular anteversion (av) increases linearly with pelvic tilt (PT), with 1° increase in PT leading to 0.7 to 0.9° increase in av. However, those studies assumed linearity between the two parameters without accounting for patient-specific pelvic morphology.

Purpose: Describe 3D geometric relationships between positional acetabular and morphologic pelvic parameters.

Methods: A mathematical model was first established on the acetabular morphological angle (AMA), the angle between the acetabular axis and the hip axis, and the sagittal acetabular inclination (SAI), the angle between the acetabular axis projected on the sagittal plane and the horizontal axis. While AMA is a morphological patient-specific angle, SAI increases incrementally with PT (i.e. a 1° increase in SAI corresponds to a 1° increase in PT). 3D geometrical relationships between AMA, SAI, acetabular abduction (abd), and av were established, then graphically represented.

Results: Abd and av can be calculated from the AMA and SAI angles. Abd and av exhibit a non-linear relationship with SAI, and are impacted by the acetabular morphology (AMA). Specifically, for a given decrease in pelvic retroversion (SAI), changes in abd and av vary significantly depending on pelvic morphology. Case examples highlight this non-linearity: two ASD patients with similar SAI variations (i.e. similar decrease in PT of 16°) exhibited markedly different changes in abd (-14° vs. -3°) and av (-10° vs. -2°).

Conclusion: 3D pelvic morphology influences changes in abd and av following spinal realignment, proving a non-linear relationship between PT and acetabular orientation.

Impact Statement: This relationship is essential for spine and hip surgeons to better anticipate postoperative shifts in cup orientation and establish patient-specific hip “safe zones” to minimize THR dislocation risk in ASD patients.

Abstract Category

Basic Science & Translational

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MOTOR CORTEX STIMULATION VIA EEG-NEUROFEEDBACK MU-RHYTHM SUPPRESSION: A NOVEL NON-INVASIVE APPROACH FOR PAIN MANAGEMENT

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Abstract Body

EEG-neurofeedback (NFB) is being explored for analgesia, investigating various protocol combinations targeting different brainwaves. Neuromodulation of the motor cortex is an effective strategy for treating refractory pain. Studies have shown that suppression of Mu-rhythm (8-12 Hz) increases corticospinal excitability. This single-center, single-blinded, randomized sham-controlled pilot study aims to desynchronize Mu waves over the motor cortex as a novel approach to enhance NFB training effectiveness for pain modulation. Healthy adults are randomly assigned to the Experimental (n = 2/20) or Sham group (n = 2/20). Participants undergo six 30-minute NFB sessions (T1-T6) over 15 days, with a training threshold set at 80-90% of baseline Mu power. Pain perception is assessed using transcutaneous electrical nerve stimulation (TENS) for phasic electro-mechanical pain, and the cold pressor task (CPT) for tonic cold pain. Clinical and physiological measures, including pain threshold, pain tolerance (score 7/10), heart rate (HR), respiration (RR) rate, skin conductance (GSR) and body temperature, are recorded before, during, and after each training. For the TENS test, the NFB group showed a greater initial reduction in pain scores at T1 (-28.57% ± 16.67) compared to Sham (-14.29% ± 14.29); with further reductions starting from T3 onward, while Sham remained unchanged. GSR generally increased during painful stimulation but slightly decreased post-NFB (T1, T3, T4). HR varied randomly, while RR slightly decreased post NFB-training. For CPT, the NFB group exhibited a significant increase in pain threshold starting at T3 (30 ± 9 sec, p = 0.047), whereas Sham showed a gradual decrease. GSR remained below baseline in the NFB group but unchanged in Sham. RR remained stable in the NFB group but fluctuated in Sham. These findings suggest that Mu-desynchronization NFB training targeting the motor cortex could modulate pain perception, offering new hope for pain management through an engaging and non-invasive neuromodulation strategy.

Abstract Category

Clinical Research

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VITAMIN C ALLEVIATES CARDIAC FIBROSIS BY FINE TUNING FIBROBLASTS PHENOTYPE

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Abstract Body

Background: Cardiac fibrosis is a major contributor to cardiovascular diseases morbidity and mortality, arising as an excessive cardiac response to stressors such as myocardial infarction or hypertension. This process is complex, involving numerous signaling pathways. While cardiac fibrosis has been extensively studied, emerging natural antioxidant molecules are now being explored as potential therapies to mitigate this condition. Vitamin C, a widely consumed antioxidant, may play a regulatory role in cardiac fibrosis, prompting us to evaluate its impact on this condition.

Materials and Methods: The study was approved by the USJ Ethics Committee (FM451). Cardiac fibrosis was induced using a hypertensive model by administering L-Ng-Nitro arginine methyl ester (L-NAME) to adult male Wistar rats. L-Ascorbic acid or VC was orally given at a dose of 90 mg/kg/day for two months. Animals were divided into four groups (n = 6 each): Sham, Sham VC, L-NAME, L-NAME VC. Blood pressure measurements were followed by histological, biochemical, and molecular analyses on cardiac tissue. The effects of VC (70 microM) on fibrotic signaling pathways were studied in cultured rat ventricular fibroblasts. One-way ANOVA/Kruskal-Wallis with post hoc tests were performed.

Results: L-NAME treated rats given VC showed an increase in diastolic interventricular septal thickness ($p < 0.01$) and left ventricular posterior wall ($p < 0.05$), concomitantly with a systolic blood pressure decrease ($p < 0.0001$), less perivascular fibrosis ($p < 0.05$) and PDGFRa+ fibroblast proliferation. These effects were associated with the AKT signaling pathway ($p < 0.05$). Furthermore, in vitro data showed an increase in soluble collagen secretion by ventricular fibroblasts ($p < 0.01$). At the molecular level, VC-treated fibroblasts exhibited higher AKT activation ($p < 0.05$) with NFATc3 and p38 inhibition ($p < 0.05$).

Conclusion: VC seems to possess cardiac antifibrotic potential by acting on fibroblasts and modulating key fibrotic pathways.

Impact Statement: This study puts forward vitamin C as a potential candidate in managing heart diseases a with fibrotic phenotype.

Abstract Category

Basic Science & Translational

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ANTIBIOTIC MISUSE IN PATIENTS COLONIZED WITH MULTIDRUG-RESISTANT ENTEROBACTERIA AT THE RECTAL LEVEL

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Abstract Body

Abstract Introduction: Antibiotic resistance (ABR) is considered a significant threat to the clinical effectiveness of antibiotics, making it a major global public health concern. ABR has significantly increased due to irrational prescribing and/or inappropriate use of antibiotics.

Methods: 52 participants who underwent rectal swabbing at *Hôtel-Dieu de France* in the Department of Infectious Diseases were interviewed by phone using a questionnaire (Annex 1) adapted from a 2016 study conducted in Singapore[8] and modified to suit the studied population. Patients were classified based on their personal antibiotic misuse (Abuse), their knowledge (Knows), and other subgroups.

Results: The study revealed an association between personal antibiotic misuse and the presence of multidrug-resistant bacteria (MDR), with a 6.2-fold increased risk in patients with personal misuse ($p = 0.012$). Conversely, better knowledge of antibiotics appeared to reduce the risk of MDR (OR = 0.18, $p = 0.017$).

Conclusion: This study highlights the link between personal antibiotic misuse and the presence of MDR, while better knowledge reduces this risk. Strengthening awareness and regulating antibiotic use are essential to limit antibiotic resistance and preserve its effectiveness. Larger studies remain necessary to confirm these findings.

Keywords: Multidrug-resistant bacteria; Antibiotic misuse; Metronidazole (Flagyl); Rifaximin (Normix); Antibiotic resistance.

Abstract Category

Epidemiology & Public Health

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FROM RESISTANCE TO RESPONSE: PTPRD CO-MUTATION UNLOCKS IMMUNOTHERAPY SENSITIVITY IN ONCOGENE-ADDICTED NSCLC

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Abstract Body

Background: Immune-checkpoint inhibitors (ICIs) have significantly improved survival in non-small cell lung cancer (NSCLC) by targeting immune evasion pathways. However, oncogene-driven NSCLC (EGFR, ALK, ROS1, MET, RET, BRAF) is often intrinsically resistant to ICIs. Identifying subgroups that may benefit from immunotherapy remains a critical challenge.

Methods: We analyzed NSCLC patients from the MSK-CHORD public cohort who received ICIs (n = 2,666), including 793 oncogene-mutated cases. A Cox proportional-hazards model was used to evaluate the impact of co-mutations occurring in ≥10% of oncogene-addicted NSCLC patients. Immunotherapy efficacy was assessed based on tumor mutational burden (TMB) and overall survival (OS).

Results: Among oncogene-mutated NSCLC patients treated with ICIs, PTPRD was identified as a significant co-mutation associated with improved survival (HR 0.598, 95% CI 0.00–0.79). Co-mutation frequencies varied across driver mutations: EGFR (7%), ALK (26%), ROS1 (18%), MET (13%), RET (26%), and BRAF (12%). TMB was significantly elevated in PTPRD co-mutated subgroups ($p < 0.001$), except in BRAF-mutant cases. OS analysis showed a survival benefit for PTPRD co-mutated patients in EGFR and MET-driven tumors compared to PTPRD wild-type. Additionally, PTPRD co-mutation in ALK, EGFR, MET, and RET subgroups was associated with improved survival compared to the general NSCLC cohort treated with ICIs. There was no significant difference in outcomes between PTPRD co-mutated, ICI-treated patients and EGFR/ALK populations treated with TKIs. Similar findings were observed in KRAS- and NTRK-mutated subpopulations.

Conclusion: PTPRD is a recurrent co-mutation in oncogene-driven NSCLC that may enhance tumor sensitivity to ICIs. Its association with improved survival and increased TMB across multiple driver-mutated subtypes highlights PTPRD as a promising predictive biomarker for immunotherapy response in oncogene-addicted NSCLC.

Impact Statement: This study is the first to identify a pan-oncogene co-mutation that confers ICI sensitivity in previously resistant oncogene-driven NSCLC, thus aiding clinicians in identifying patients previously deemed unresponsive to immunotherapy.

Abstract Category

Clinical Research

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PARENTAL SMARTPHONE ADDICTION AND CHILD PROBLEMATIC MEDIA USE: MEDIATING FACTORS AND VALIDATION OF THE CHILD-PARENT RELATIONSHIP SCALE IN ARABIC

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Abstract Body

Background: Problematic smartphone use is widespread, and parental smartphone addiction has been linked to children's media misuse. However, not much has been studied about the mediating role of conflict or closeness between parents and their children, nor that of depression and anxiety in this dynamic. The objective of this study was to study the effect of caregivers' smartphone dependence on their child's media misuse through the mediating factors and to validate the Child-Parent Relationship Scale in Arabic.

Materials and Methods: A cross-sectional study was conducted in August 2024 with 892 parents of children aged between 6 and 10 years from the Lebanese population, using an online survey. Ethical approval was obtained from the Notre Dame des Secours University Hospital Ethics Committee.

Results: The confirmatory analysis results confirmed the two-factor structure obtained for the Child-Parent Relationship Scale, with good internal reliability for the conflict (a = 0.88) and closeness (a = 0.91) subscales. Invariance was shown at the metric and scalar levels in terms of genders. A higher level of smartphone addiction was directly and indirectly, through higher depression and higher conflict levels, associated with higher problematic media use.

Conclusions: This study highlighted the significant mediating role of parental depression and parent-child conflict in the relationship between parental smartphone addiction and children's problematic media use in Lebanon. The findings emphasize the need for smartphone addiction screening and interventions promoting healthy media habits, improved family communication, and mental health support. The validated Arabic Child-Parent Relationship Scale offers a valuable tool for researchers and clinicians in Arabic-speaking communities.

Impact Statement: This research identifies crucial links between parental smartphone addiction and childhood media problems, mediated by depression and relational conflict. The validated Arabic Child-Parent Relationship Scale enhances the assessment of family dynamics in Arab contexts.

Abstract Category

Epidemiology & Public Health

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SURVEY ON SEASONAL INFLUENZA VACCINATION AMONG HEALTHCARE WORKERS IN LEBANESE HOSPITALS: POST-COVID-19 PANDEMIC AND ECONOMIC CRISIS PERSPECTIVE

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Abstract Body

Background: Healthcare workers (HCWs) are at high risk of contracting and spreading influenza, making vaccination essential. This study assessed influenza vaccination coverage among HCWs in Lebanese hospitals during the 2023/24 season, compared it to 2018/19, and identified factors influencing vaccine uptake during the 2023/24 season.

Methods: A cross-sectional study was conducted between April and September 2024 using a self-administered online survey distributed through hospital directors and focal persons. Eligible participants included HCWs across Lebanese hospitals. Data were analyzed to identify predictors of vaccine uptake and assess HCWs' knowledge, attitudes, and perceptions regarding influenza vaccination.

Results: Among 391 HCWs, influenza vaccination coverage dropped from 60.5% (233/385) in 2018/19 to 29.9% (117/391) in 2023/24, while the proportion of unvaccinated HCWs rose from 39.5% (152/385) in 2018/19 to 70.1% (274/391) in 2023/24. Several factors significantly increased the likelihood of non-vaccination in the 2023/2024 season. Younger HCWs (20-29 years; OR:2.88, $p < 0.0001$) and those with ≤5 years of experience (OR:2.40, $p < 0.0001$) were more likely to forgo vaccination. Nurses (OR:1.92, $p = 0.003$) and HCWs with a diploma (OR:2.60, $p = 0.014$) or bachelor's degree (OR:2.49, $p<0.0001$) were at higher risk. Single HCWs (OR:2.49, $p < 0.0001$) and those without children (OR:2.55, $p < 0.0001$) were also more likely to remain unvaccinated. Vaccine hesitancy was strongly linked to moderate influenza-related knowledge (OR:2.58, $p < 0.0001$), neutral attitudes toward vaccination (OR: 3.25, $p = 0.001$), and negative vaccine attitudes (OR:8.13, $p = 0.001$). Misinformation further contributed, with HCWs agreeing with COVID-19 vaccine misinformation being at higher risk of non-vaccination (OR:4.79, $p < 0.0001$). The strongest predictor was the absence of workplace vaccination programs (i.e. healthcare facilities not offering influenza vaccination), increasing the likelihood of non-vaccination more than 11-fold (OR:11.25, $p < 0.0001$).

Conclusion and Impact Statement: The sharp decline in vaccination rates highlights the urgent need for targeted interventions addressing vaccine hesitancy, misinformation, and institutional barriers to improve uptake among HCWs.

Abstract Category

Epidemiology & Public Health

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PTH IN THE LEBANESE POPULATION : AGE, SEX, 25(OH)D, GFR, AND HBA1C, AND ANALYSIS OF PTH OVER TIME

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Abstract Body

Objectives: This study aims to examine PTH levels in the Lebanese population based on various biological and demographic parameters, including age, sex, 25(OH)D levels, glomerular filtration rate (GFR), and glycated hemoglobin (HbA1c). Additionally, the temporal evolution of PTH values will be analyzed by comparing the periods before and after the COVID-19 pandemic.

Methods: Data from patients who underwent PTH testing between 2017 and 2024 were retrieved from the DxLab system of *Hôtel-Dieu de France*. The collected data included age, sex, date and location of sample collection, and biological values of PTH, 25(OH)D, calcium, creatinine, and HbA1c. The analysis was stratified by year of testing, pre- and post-pandemic periods, age groups, sex, and renal status. A rigorous statistical analysis was conducted to identify variations in PTH levels.

Results: A total of 6,929 PTH tests were analyzed. The median PTH value was 42.20 pg/mL [28.30–87.80]. A significant increase in PTH levels was observed with age, particularly after 40 years. Additionally, men had significantly higher PTH levels than women, but this difference disappeared after adjusting for GFR and 25(OH)D levels, except in older subjects with high 25(OH)D levels. PTH was inversely correlated with 25(OH)D levels ($p < 0.001$). No significant difference in PTH values was observed before and after the pandemic. PTH levels increased with decreasing GFR. Finally, a significant correlation between PTH and HbA1c was identified ($r = 0.17$, $p < 0.001$).

Conclusion: Our study highlights a progressive increase in PTH levels with age and its inverse relationship with renal function and vitamin D status, as well as the absence of significant changes in PTH levels after COVID-19 in the Lebanese population.

Impact: These results emphasize the need to adjust PTH reference ranges based on age and sex in the Lebanese population.

Abstract Category

Basic Science & Translational

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ASSESSMENT OF METABOLIC-ASSOCIATED STEATOTIC LIVER DISEASE (MASLD) IN METABOLICALLY HEALTHY AND UNHEALTHY OBESE IN A SAMPLE OF LEBANESE PATIENTS

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Abstract Body

Introduction: MASLD is a leading chronic liver disease worldwide, strongly linked to metabolic syndrome and obesity. However, some individuals with obesity, known as metabolically healthy obese (MHO), may have a lower risk of developing MASLD. In Lebanon, lifestyle and dietary habits play a role in the progression of liver steatosis. This study aims to evaluate MASLD occurrence in MHO and metabolically unhealthy obese (MUHO) individuals and assess different diagnostic tools.

Materials and Methods: A cross-sectional study was conducted on patients with a BMI exceeding 30 kg/m², recruited from endocrinology and internal medicine clinics. Participants were categorized as MHO or MUHO based on metabolic syndrome criteria. Liver health was evaluated using ultrasound, FibroScan, and non-invasive markers such as FIB-4, APRI, and HSI.

Results: Out of 192 patients, 83.9% exhibited hepatic steatosis, with 18.8% experiencing severe steatosis. MASLD was more prevalent in MUHO individuals. High levels of glucose, triglycerides, LDL, AST, and ALT were significantly associated with MASLD and fibrosis. ROC analysis demonstrated that FIB-4 (AUC=0.846) and APRI (AUC=0.841) are effective predictors of fibrosis. Additionally, severe fibrosis was strongly linked to elevated AST levels (aOR = 1.13, p = 0.005).

Conclusion and Impact Statement: Metabolic status influences the risk of MASLD in obese patients, underscoring the importance of distinguishing between MHO and MUHO. Early identification and intervention targeting modifiable risk factors are essential for better disease management. Non-invasive markers like FIB-4 and APRI may serve as efficient alternatives to advanced imaging for fibrosis detection.

Keywords: MASLD, MHO, MUHO, FIB-4, APRI, HSI, hepatic ultrasound, FibroScan

Abstract Category

Clinical Research

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EVOLUTION OF VACCINATION COVERAGE AMONG CHILDREN IN LEBANON: A COMPARATIVE EPIDEMIOLOGICAL ANALYSIS

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Abstract Body

Background: Vaccination is a crucial public health intervention that reduces both morbidity and mortality globally. This study aims to assess and compare the vaccination coverage rates and non-coverage rates for routine childhood immunizations across different Lebanese governorates between 2013 and 2018.

Methods: This is a retrospective secondary analysis. It incorporates vaccination data of 82,000 children (aged 0-18 years) documented by the "Health Society," a prominent non-governmental organization, during its 'Immunization' project that aimed to improve childhood immunization in Lebanon. The project was carried out under three successive phases: Household Survey and Referral phase (2013-2014), Mobile Vaccination Clinics phase (2015), and Integrated Referral and Mobile Vaccination phase (2016-2018). Vaccination coverage and non-coverage rates for routine childhood immunizations were calculated for each governorate. Comparative analyses using SPSS V26 were performed to identify variations in vaccination rates across different governorates.

Results: Vaccination coverage rates demonstrated significant variability across Lebanese governorates and throughout the study period. In 2013, the average vaccination coverage was approximately 51.2%, with a corresponding non-coverage rate of 48.8%. However, by 2018, a substantial shift towards non-coverage was observed, with rates reaching 86.9%, and coverage falling to 13.1%. Notably, Mount Lebanon exhibited the highest coverage rate, peaking at 57% during the study period. In contrast, the South governorate experienced a consistent decline in vaccination coverage from 64.1% in 2013 to 10.5% in 2017. Concurrently, the non-coverage rate in the South increased from 35.9% to 89.5%. Prior to reaching 12.6%, the South had already reached very low coverage. These results highlight concerning trends in vaccination coverage, particularly in the South governorate, emphasizing the need for targeted interventions.

Conclusion: This study highlights disparities in childhood vaccination coverage across Lebanese governorates. These findings underscore the need for targeted interventions and public health strategies that improve vaccination rates and ensure equitable access to immunization services.

Abstract Category

Epidemiology & Public Health

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ELEVATED NT-PROBNP AS AN INDICATOR OF CARDIAC DYSFUNCTION IN PEDIATRIC PATIENTS DURING COVID-19: A RETROSPECTIVE STUDY

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Abstract Body

Background: The COVID-19 pandemic significantly increased the risk of infection among healthcare personnel and patients, especially during procedures like echocardiography. NT-proBNP, a reliable biomarker for cardiac dysfunction, has potential utility in reducing the reliance on echocardiography by identifying patients at higher risk of cardiac complications. This study aims to evaluate NT-proBNP levels in pediatric patients post-COVID-19 infection and correlate them with indicators of cardiac dysfunction such as congenital heart disease (CHD), ejection fraction (EF), and presence of various pediatric cardiovascular syndromes, multisystem inflammatory syndrome in children (MIS-C) and Kawasaki Disease (KD).

Materials and Methods: This retrospective cohort study reviewed charts of pediatric patients admitted during the COVID-19 pandemic (2020-2024). Ethics approval was secured (BIO-2023-0086). Data on demographics, clinical presentation, and patient history of CHD, viral illness, diagnosis, echocardiographic findings, and NT-proBNP levels were collected. Data analysis was performed using SPSS software, assessing correlations between NT-proBNP levels and cardiac dysfunction indicators.

Results: Analysis of the results included data from 98 patients (mean age: 9.3 ± 5.1 years). Elevated NT-proBNP levels (> 1000 pg/mL) were found in 45% of patients. Significant correlations were observed between elevated NT-proBNP and presence of CHD, reduced EF, NT-proBNP levels were notably higher in patients with echocardiographically confirmed cardiac dysfunction compared to those without (median 4520 vs. 248 pg/mL, respectively).

Conclusion: Elevated NT-proBNP levels post-COVID-19 infection in pediatric patients significantly correlate with echocardiographic evidence of cardiac dysfunction. Utilizing NT-proBNP as a screening tool can aid in identifying pediatric patients at higher risk, potentially reducing unnecessary echocardiographic exposure and the associated risk of disease transmission. Further prospective studies are recommended to validate these findings.

Impact Statement: This research highlights NT-proBNP as a practical biomarker to safely identify cardiac dysfunction in pediatric patients, improving clinical management during pandemics, and reducing potential exposure to COVID-19 and other viruses.

Abstract Category

Clinical Research

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THE IMPACT OF FECAL MICROBIOTA TRANSPLANTATION IN MODULATING COLON HEALTH IN DIABETES AND COLORECTAL CANCER

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Abstract Body

Background: The gut microbiota plays a crucial role in regulating metabolism, immunity, and the progression of diseases. Dysbiosis, an imbalance in the microbiota, has been implicated in the pathogenesis of various conditions, including diabetes and colorectal cancer (CRC). Diabetes alters the gastrointestinal environment, leading to dysbiosis. Likewise, dysbiosis contributes to CRC development. This study aims to investigate the impact of CRC-induced dysbiosis on the guts of type 2 Diabetes Mellitus (T2DM) subjects and examine the potential effect of fecal microbial transplantation (FMT) in modulating diabetic guts.

Materials and Methods: We used FVB/NJ control mice and non-obese type 2 diabetic MKR transgenic mice. Mice were assigned to four groups: SHAM, FMT-treated with stool from healthy donors, FMT-treated with stool from T2DM donors, and FMT-treated with stool from CRC donors. Gut microbiota was depleted with an antibiotic cocktail before treatment. FMT was administered orally twice weekly for 8 weeks. Colon samples were collected for functional, histological, and molecular analyses.

Results: Our results show that CRC FMT in T2DM mice induced collagen deposition, fibrosis, and inflammation, and increased NADPH oxidase activity. These findings underscore the critical role of gut dysbiosis, induced by CRC, in exacerbating colon injury in mice with diabetes. Interestingly, FMT from healthy control mice mitigated these effects in T2DM mice. This therapeutic intervention reduced collagen deposition and fibrosis, NADPH oxidase activity, and pro-inflammatory cytokine levels. These outcomes suggest that healthy FMT may restore microbial balance, alleviate oxidative stress, and dampen inflammation.

Conclusion: This study underscores the critical role of gut microbiota in diabetes-associated colon injury, particularly with CRC microbiota. Our findings highlight the therapeutic potential of healthy FMT in restoring microbial balance, mitigating oxidative stress and inflammation, and improving the gastrointestinal microbiome in diabetic settings.

Impact Statement: These results pave the way for exploring microbiota-targeted therapies in diabetes-associated CRC.

Abstract Category

Basic Science & Translational

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REAL-WORLD DATA: IMPLEMENTATION AND OUTCOMES OF NEXT-GENERATION SEQUENCING IN THE MENA REGION

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Abstract Body

Background: In the era of precision medicine, Next Generation Sequencing (NGS) has emerged as an important tool for identifying targetable mutations and tailoring treatment options. Yet, the Middle East and North Africa (MENA) lags behind in adopting this technology. This study aims to demonstrate the transformative potential of molecular profiling in the region.

Methods: This retrospective study reviewed cancer patients at the American University of Beirut Medical Center, comparing outcomes between those who received NGS-based treatment adjustments (NBTA) and those who did not.

Results: The study enrolled 180 patients, including those with non-small cell lung cancer (21.2%), sarcomas (20%), gastrointestinal malignancies (23.3%), breast cancer (10.6%), and other cancers (24.9%). 58.3% had stage 4 cancer at diagnosis. Before molecular profiling, 20.6% had stable disease, 21.7% showed partial response, and 57.8% had progressive disease. Most (96%) had received treatment, mainly systemic (90%), with chemotherapy (89%) being the most common. Forty patients (22.2%) underwent NGS-based treatment adjustments (NBTA). Post-NGS, targeted therapies increased from 35% to 43% and immunotherapies from 14% to 18%. Mutations were detected in 98% of patients, with a median of 4 mutations per patient. NBTA patients had a median overall survival of 59 months, compared to 23 months for non-NBTA patients (p=0.096), and significantly improved progression-free survival (5.32 vs. 3.28 months, p = 0.023).

Conclusion: The use of large-scale molecular profiling to guide treatment adjustments promises advancements in patient care. Integrating NGS into clinical practice correlates with improved PFS, calling for a broader adoption of its use in the MENA region.

Impact Statement: Integrating NGS-based treatment adjustments into clinical practice enhances progression-free survival and expands access to personalized therapies, highlighting the transformative potential of precision oncology and the importance of accelerating its adoption in the MENA region.

Abstract Category

Clinical Research

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EPIDEMIOLOGY AND RESISTANCE PATTERNS OF URINARY TRACT INFECTION PATHOGENS: A THREE-YEAR STUDY IN EIGHT HOSPITALS IN LEBANON

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Abstract Body

Background: Urinary tract infections (UTIs) are prevalent and require ongoing monitoring of resistance patterns to guide empirical antibiotic therapy.

Materials and Methods: A retrospective cohort study analyzing laboratory records from eight hospitals in Lebanon, spanning 2021 to 2023.

Aim: To examine the relationship between UTI resistance patterns, time, patient demographics, and urine analysis.

Results: A total of 16,954 urine culture samples were analyzed. Gram-negative bacteria were responsible for 81% of UTIs, with Escherichia coli (70.3%), Klebsiella pneumoniae (12.4%), Enterococcus faecalis (4%), Pseudomonas aeruginosa (4.8%), and Proteus mirabilis (4.3%) being the most common pathogens. Nosocomial UTIs were primarily caused by E. coli (35%), Candida albicans (15%), P. aeruginosa (7.6%), and K. pneumoniae (7.1%). E. coli showed resistance to third-generation cephalosporins (45%), nitrofurantoin (12%), trimethoprim-sulfamethoxazole (51%), and fluoroquinolones (48%). Notably, resistance in nosocomial E. coli strains was significantly higher (third-generation cephalosporins: 68%, fluoroquinolones: 69%, $p < 0.05$). K. pneumoniae resistance to antibiotics included third-generation cephalosporins (39%), nitrofurantoin (61%), trimethoprim-sulfamethoxazole (42%), and fluoroquinolones (40%). P. aeruginosa exhibited resistance to fluoroquinolones (28%) and carbapenems (40%) in nosocomial UTIs, while community-acquired strains had slightly lower resistance rates. Increased resistance is seen when compared to previous local and international data, yet this mirrors the alarming trend of increasing antimicrobial resistance (AMR).

Conclusions: This study highlights the growing challenge of AMR in UTIs, particularly in nosocomial infections. A comprehensive understanding of resistance patterns is critical for optimizing empirical antibiotic treatment and improving patient outcomes.

Impact Statement: It is important to follow up on the local trends of antimicrobial resistance, and compare them to the international data. This three-year study across eight different hospitals from Lebanon will help bridge the gaps in literature about the local resistance patterns of UTIs in Lebanon.

Abstract Category

Clinical Research

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CORRELATES OF TRANSFUSION AND LENGTH OF STAY AMONG HIP/ KNEE ARTHROPLASTY PATIENTS IN LEBANON: EFFECT OF PATIENT BLOOD MANAGEMENT EDUCATION

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Abstract Body

Background: Patient Blood Management (PBM) is a WHO-endorsed methodology designed to optimize transfusion and patient outcomes. This strategy is limited to isolated hospital practices in Lebanon, lacking national guidelines. Our study aimed to identify factors associated with increased transfusion needs and increased length of stay (LOS) in elective hip and knee arthroplasty patients, while also evaluating the effect of a PBM education initiative on inappropriate transfusion rates among orthopedic surgeons.

Methods: We performed a cross-sectional review before PBM education (January-July 2024) and post-education (August 2024-February 2025), following ethical guidelines of the institutional review board. Chi-square tests assessed unnecessary transfusion rates (pre/post-PBM education), and binary logistic regression identified predictors of transfusion and increased LOS.

Results: Our study included 99 patients: 45 in the pre-education phase and 54 in post-education. Their mean age was 70.1±13.4, with 67% females. In total, 23 patients received post-operative transfusion, with 48% demonstrating hemoglobin values above the established transfusion trigger (i.e., 8 g/dL), reflecting a liberal transfusion strategy. In the pre-education group, pre-operative anemia (aOR = 19.8; p = 0.007) and a hip surgery compared to knee (aOR = 8.138; p = 0.017) were significantly associated with increased odds of transfusion need, whereas tranexamic acid (TXA) use was significantly associated with decreased such odds (aOR = 0.093, p = 0.033). Sex did not show significance. Among all patients (pre- and post-education groups), transfusion was significantly associated with prolonged LOS (aOR = 3.789; p = 0.031), whereas sex, site of surgery, and TXA use showed no significance. Unnecessary post-operative transfusions significantly decreased post-education (Cramer's V = 0.664, p = 0.001).

Conclusions: This study found that transfusion significantly correlated with increased LOS, identified modifiable risk factors for transfusion, and validated the effectiveness of PBM education and restrictive transfusion strategies for improving patient outcomes and reducing the cost of unnecessary transfusion.

Impact Statement: Our study confirms the need for PBM implementation in Lebanon to improve patient care and reduce unnecessary transfusions.

Abstract Category

Clinical Research

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CYCLIC GUANOSINE 3′-5′ MONOPHOSPHATE (CGMP) SIGNALING IS DIFFERENTIALLY ALTERED IN DIABETIC CARDIOMYOPATHY

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Abstract Body

Background: Diabetic cardiomyopathy (DCM) encompasses a range of cardiac abnormalities. We have recently shown that DCM is linked to differential, time-dependent regulation of the cardiac cyclic adenosine monophosphate pathway, leading to functional changes. This study investigates whether DCM is similarly associated with time-specific changes in the cyclic guanosine monophosphate (cGMP) pathway.

Methods: Type 1 diabetes (T1D) was induced in adult male rats through streptozotocin injection. DCM was evaluated by cardiac structural and molecular remodeling. Real-time quantitative PCR and Western blot were used to delineate changes in inflammatory cytokines, mitochondrial complexes, antioxidant systems, apoptosis and survival-related proteins, ß-adrenergic receptors (ß3-AR), cardiac cyclic nucleotide phosphodiesterases (PDE 2A, 5A, 9A, 10A), cGMP export transporter (MRP5), cGMP-dependent protein kinase G (PKG), and key cellular targets at 4, 8 and 12 weeks post-diabetes induction. All protocols were approved by the Animal Care and Use Committee at the Lebanese American University.

Results: T1D-induced DCM was associated with cardiac remodeling. We observed increased interleukins 6, 10, 12, COX-2, and catalase levels in diabetic hearts, while mitochondrial complex I expression decreased. Significant upregulation of p-P38/P38 and p-P53/P53 ratios occurred at week 8 in diabetic hearts, with downregulation of Bax/Bcl-2 and p-AKT/AKT ratios at all disease stages. Transient increases in ß3-AR receptors, MRP5, and PDE9A were noted at week 4 in diabetic hearts, while PDE10A transcripts were upregulated at all disease stages. No changes were observed in the cardiac expression of PDE2A, PDE5A, PKG-1, P-Src/Src, P-VASP-Ser157/VASP, and P-VASP-Ser239/VASP, while P-CREB-Ser133/CREB expression decreased in diabetic hearts.

Conclusion: We show distinct and time-dependent changes in inflammatory cytokines, mitochondrial function, apoptotic markers, and phosphodiesterases, suggesting multifaceted signaling shifts in DCM pathophysiology.

Impact Statement: These findings provide new insights into the temporal regulation of the cGMP pathway in DCM, potentially guiding targeted therapies to alleviate cardiac dysfunction in diabetic patients.

Abstract Category

Basic Science & Translational

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THE EPIDEMIOLOGY GRAM-POSITIVE COCCI BLOOD STREAM INFECTIONS, AND THEIR RESISTANCE PATTERN: A MULTI-CENTERED STUDY FROM LEBANON

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Abstract Body

Background: Gram-positive bacteremia is a life-threatening infection with high morbidity and mortality. Its incidence is rising worldwide, and treatment has become more challenging due to emerging bacterial resistance. Little data is available on the burden and outcome of such infections in Lebanon.

Methods: We conducted this retrospective study in four Lebanese hospitals where data on medical conditions and demographics of 2,400 patients diagnosed with a bloodstream infection based on a positive blood culture were collected between January 2013 and December 2020.

Results and Discussion: The study investigated 732 cases of bacteremia, stratified into community-acquired (CA) and hospital-acquired (HA) infections. Among community-acquired cases, prevalent bacterial species included Staphylococcus aureus (20.3%), Staphylococcus epidermidis (14.7%), Enterococcus (13.0%), Streptococcus viridans (26.0%), and Streptococcus pneumoniae (8.2%). Hospital-acquired cases showed prevalence rates of Staphylococcus epidermidis (46.3%), Enterococcus (24.6%), Streptococcus viridans (6.1%), Streptococcus agalactiae (4.8%), and Streptococcus pyogenes (4.0%). Furthermore, the analysis identified several risk factors associated with bacteremia. Notably, Diabetes Mellitus (41.8% in community-acquired vs. 30.1% in hospital-acquired, $p < 0.001$), Cancer (solid tumor) (22.2% vs. 31.0%, $p = 0.008$), and Coronary Artery Disease (32.7% vs. 27.4%, $p = 0.001$), Neutropenia (5.2% vs. 17.0%, $p < 0.001$) and the presence of a Vascular catheter/foreign body (0.9% vs. 12.6%, $p < 0.05$).

Conclusion: The prevalence of bacterial species varies significantly between the two acquisition sources with S.aureus, Enterococcus, and S.pneumoniae being more prevalent in community-acquired infections, while S.epidermidis and S.viridans predominate in hospital-acquired cases. Moreover, certain risk factors such as Diabetes Mellitus, Cancer (solid tumor), and Coronary Artery Disease are more commonly associated with community-acquired bacteremia, whereas Neutropenia and Vascular catheter/foreign body are associated with hospital-acquired bacteremia. Healthcare professionals can improve patient outcomes and lessen the burden of bacteremia-related morbidity and mortality by implementing more effective preventive measures and optimizing antibiotic therapy by understanding the unique epidemiological profiles and risk factors associated with bacteremia acquisition.

Abstract Category

Epidemiology & Public Health

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ASSOCIATION BETWEEN PERFORMANCE TESTS AND GLOBAL FUNCTIONING AND HEALTH IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Abstract Body

Background: Performance and functional assessment in patients with axial spondyloarthritis (axSpA), using various tests and scores, is critical for improving management strategies and health outcomes, especially in older patients.

Objectives: To analyze the association between physical performance and global functioning and health in patients with axSpA at a tertiary rheumatology center. To investigate the correlations between SPPB and other scores and PROs, and ASAS HI environmental factors (EF) item set.

Methods: Cross-sectional study with prospective inclusion. Patients diagnosed with axSpA were consecutively evaluated. All data were assessed prospectively, while HLA B27 was collected from the hospital's information system. The statistical plan was designed to evaluate the correlation between the SPPB and the ASAS-HI, then to analyze the SPPB as a dependent binary variable in correlation with other PROs and a qualitative analysis of its association with ASAS-HI EF items.

Results: Among 200 patients with axSpA (mean age 44.3 years (±12.5), 69% males), worse physical performance was significantly associated with poor global functioning and health, higher ASAS-HI (11.2 (±3.0) versus 6.4 (±3.8), $p < 0.001$). In the bivariate analysis and the multivariable binary logistic regression analysis, worse SPPB was significantly associated with older age (OR 1.077, $p = 0.015$), lower education levels (OR 4.578, $p = 0.038$), unemployment (OR 10.753, $p = 0.013$), greater functional impairment (OR 3.443, $p = 0.001$), and worse Physician Global Assessment (OR 1.398, $p = 0.015$). The qualitative analysis of the ASAS HI Environmental Items showed that better physical performance was associated with patients being more independent, relying less on their relatives, and requiring less environmental adaptations change.

Conclusion: This study highlights the significant association between physical performance, global functioning, and health in patients with axSpA. These findings suggest that improving physical performance and addressing psychosocial factors could enhance patient outcomes and overall quality of life.

Abstract Category

Clinical Research

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LEFT VENTRICULAR STRAIN IN PEDIATRIC SICKLE CELL DISEASE: INSIGHTS INTO SUBCLINICAL MYOCARDIAL DYSFUNCTION

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Abstract Body

Background: Sickle cell disease (SCD) is associated with significant cardiovascular morbidity. Advanced echocardiographic techniques provide early detection of myocardial dysfunction. This study aims to evaluate subclinical cardiac dysfunction in pediatric SCD patients by assessing left ventricular (LV) longitudinal strain (LS) and examining its association with various factors.

Methods: Following institutional review board approval, a retrospective study was conducted on pediatric SCD patients and matched healthy controls, who underwent routine echocardiography between 2015-2023.

Results: 278 echocardiographic studies were analyzed for 185 participants, including 118 SCD patients (mean age: 11.6 years, range: 1–21 years) and 67 matched controls (mean age: 12 years, range: 1–21 years). Both groups had a male to female ratio of 1. Compared to controls, SCD patients exhibited significantly larger LV end-diastolic diameter index (40.03 vs. 35.4 mm/m²; $p < 0.001$), LV end-systolic diameter (30.57 vs. 27.05 mm; $p < 0.001$), and left atrial volume index (28.47 vs. 16.43 ml/m²; $p < 0.001$), with reduced LVLS (-21.5% vs. -22.33%; $p < 0.001$). Doppler analysis revealed significantly higher E/A ratio (1.91 vs. 1.65; $p < 0.001$), and tricuspid regurgitation maximal velocity (2.2 vs. 2.01 m/s; $p < 0.001$) in SCD patients. In multivariate analysis, factors independently associated with LVLS included prior stroke (ß= 0.9, $p = 0.048$), avascular necrosis (ß = 1.51, $p = 0.02$), and increased LV end-diastolic diameter index (ß = -0.05, $p < 0.001$).

Conclusion: Pediatric SCD patients exhibit significant cardiac remodeling, characterized by chamber enlargement, reduced LVLS, and decreased diastolic function. Disease severity is associated with decrease in LVLS.

Impact Statement: This study demonstrates early sub-clinical myocardial changes in children with SCD. It underscores the need for further research to better understand contributing factors and mitigate cardiovascular complications.

Abstract Category

Clinical Research

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PAGER ATTACK IN LEBANON: A MULTI-CENTER RETROSPECTIVE ANALYSIS OF OPHTHALMIC INJURIES

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Abstract Body

Background: Ocular injuries are a major concern in conflict zones, with eyes being disproportionately affected. Explosion-related trauma can result in significant morbidity. On September 17, 2024, an attack involving the detonation of pagers across Lebanon resulted in mass casualties. Hospitals across Lebanon experienced an influx of trauma patients. This study presents an analysis of ophthalmic injuries reported in five centers.

Methods: This retrospective study reviews ocular and orbital trauma cases from the pager explosions. Medical records of affected patients presenting to emergency departments were analyzed: demographics, clinical presentation, imaging findings, treatment strategies, and surgical outcomes. Patients were triaged based on ophthalmic complaints and bedside examination. Surgical interventions were prioritized based on urgency.

Results: A total of 93 patients were evaluated; mean age was 33.8 years; the majority being male (96.8%). The severity of injuries ranged from closed globe injury (18 eyes) to non-salvageable lacerations (55 eyes). Visual acuity outcomes varied from counting fingers or better (11 eyes) to no light perception (60 eyes). Surgical intervention was required for 123 eyes, with only 56 eyes expected to have a favorable prognosis. Associated injuries were common, including head and neck trauma requiring otolaryngology or neurosurgical intervention (46%), hand injuries (88.2%), and trunk injuries (21.5%).

Discussion: The proportion of eye injuries from this attack was significantly higher than typically reported in explosion-related trauma. Injury patterns were consistent with blast-related ophthalmic trauma, including lid lacerations, open-globe injuries, and intraocular foreign bodies. There was an exceptionally high number of eviscerations, loss of periocular and ocular tissue, chemical burns, and friable ocular structures. Hand injuries, particularly finger amputations, were frequently associated.

Conclusion: The pager explosions resulted in a substantial number of severe ophthalmic injuries.

Impact Statement: These findings underscore the devastating ocular consequences of explosive trauma and highlight the need for enhanced preparedness and emergency response strategies in mass casualty events.

Abstract Category

Epidemiology & Public Health

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THE EPIDEMIOLOGY OF INFECTIONS AMONG PATIENTS WITH HEMATOLOGIC MALIGNANCIES IN LEBANON: AN OBSERVATIONAL RETROSPECTIVE STUDY

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Abstract Body

Background: Infections are a major cause of morbidity and mortality in patients with hematologic malignancies. Understanding infection patterns is essential to optimize treatment. This study describes infection trends, causative pathogens, resistance patterns, and clinical outcomes in a Lebanese tertiary care center, comparing findings with global data.

Methods: A retrospective observational study conducted at LAUMCRH from 2015 to 2023. Medical records of patients with acute and chronic leukemias, multiple myeloma, Hodgkin and non-Hodgkin lymphoma admitted with infections were reviewed. Data on infection sites, microbiological findings, resistance, and outcomes were analyzed and compared with international reports.

Results: A total of 473 infection episodes were identified in 224 patients (Age: 64.4 ± 17.8 years). NHL (27.8%) and AML (26.7%) were the most common malignancies. Febrile episodes occurred in 83.1% of cases, and 77.6% had clinically documented infections. The most common infection sites were pneumonia (39.3%) and urinary tract infections (18.6%). Microbiological confirmation was obtained in 52.6% of cases, with Gram-negative bacteria accounting for 80.2% of isolates. Escherichia coli (36%) and Klebsiella pneumoniae (22.8%) were the most frequent Gram-negative pathogens, while coagulase-negative staphylococci (37.6%) dominated Gram-positive isolates. Infections with resistant Enterobacteriaceae were associated with a higher mortality rate (7.04%). Infection rates declined in 2021 but resurged in 2022–2023, potentially due to external factors like COVID-19 protocols. Resistance patterns showed an increase in extended-spectrum beta-lactamase prevalence from 36.7% (2015–2019) to 44.1% (2020–2023), AmpC from 12.2% to 16.1%, and carbapenem-resistant Enterobacteriaceae from 2.4% to 4.2%.

Conclusion: This study highlights an increase in resistance patterns among infections in patients with hematologic malignancies, including AmpC, ESBL, and CRE. These findings can help guide treatment decisions and support planning for resistance screening.

Impact Statement: This study identifies evolving infection trends and rising antimicrobial resistance in a vulnerable patient population, emphasizing the need for continuous surveillance to improve outcomes.

Abstract Category

Epidemiology & Public Health

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CHRONIC KIDNEY DISEASE INCREASES MORBIDITY AND MORTALITY IN PATIENTS UNDERGOING PARTIAL NEPHRECTOMY: AN NSQIP DATABASE STUDY

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Abstract Body

Background: Patients with chronic kidney disease (CKD) undergoing partial nephrectomy are at an increased risk of postoperative complications. This study aims to investigate the risk of 30-day postoperative complications among this subset of patients.

Materials and Methods: In this retrospective cohort study, patients who underwent partial nephrectomy from 2008 to 2022 were selected from the National Surgical Quality Improvement Program (NSQIP) database. Patients with CKD stage V were excluded. Baseline characteristics and postoperative outcomes were compared across CKD groups using descriptive and inferential statistics. Multivariate logistic regression was applied for each postoperative outcome, while controlling for baseline characteristics.

Results: Among 47,389 patients included, 44% had CKD stage I, 54% stages II or III, and 2% stage IV. Patients with more advanced CKD stages were generally older, more likely to be non-white, have bleeding disorders, be on steroids, have diabetes mellitus or congestive heart failure, and have higher ASA class. On multivariate logistic regression, after controlling for preoperative variables, patients with CKD stages IV had a higher risk of 30-day postoperative overall complications (OR = 1.25 [1.17-1.34], p < 0.001) including UTI (OR = 1.64 [1.04–2.58], p = 0.034), pneumonia (OR = 1.76 [1.07–2.90], p = 0.027), bleeding requiring transfusion (OR = 3.97 [3.21-4.91], p < 0.001), progressive renal insufficiency (OR = 5.65 [3.91-8.16], p < 0.001), unplanned intubation (OR = 3.04 [1.76-5.24], p < 0.001), prolonged hospitalization (OR = 3.42 [2.89-4.04], p < 0.001), and death (OR = 2.86 [1.41-5.80], p = 0.004).

Conclusions: This study reveals that patients with advanced CKD stages are at a considerably increased risk for the development of 30-day postoperative complications. Specifically, the increased risk of mortality among this subset of patients should be taken into consideration when counseling patients with CKD undergoing partial nephrectomy.

Impact Statement: Patients with advanced CKD undergoing partial nephrectomy face significantly higher risks of postoperative complications, including mortality. These findings highlight the need for enhanced perioperative management and patient counseling to mitigate surgical risks in this vulnerable population.

Abstract Category

Clinical Research

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SHINING A LIGHT ON SKIN CANCER: KNOWLEDGE AND ATTITUDES AMONG YOUNG ADULTS IN LEBANON

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Abstract Body

Background: Skin cancer is becoming more prevalent at fast rates, which may be attributed to lifestyle factors that involve excessive sun exposure. Sun protective measures during young adulthood can reduce lifetime skin cancer risk. Our study, the first of its kind in the country, aims to assess the skin cancer-related knowledge, attitudes, and sun-protective behavior of young adults in private and public universities across all of Lebanon.

Methods: Our cross-sectional study was conducted among private and Lebanese university undergraduate students across Lebanon. A 22-item LimeSurvey questionnaire, developed based on the literature, was disseminated via social media and through on-the-ground data collection. The survey assessed participants' knowledge of and attitudes toward skin cancer risk factors and sun protection, and self-reported sun protective behaviors. Descriptive statistical analysis was performed.

Results: A total of 953 students across all nine governorates completed the questionnaire. The mean age was 20.0 ± 2.3 years, with most participants being females (66.1%) and from private universities (76.4%). While 86.4% had heard of skin cancer, 74.8% correctly identified risk factors, and 69.2% recognized the dangers of sun exposure, adherence to sun protection was low. Nearly half (47.1%) sought a suntan at least once per month, 80.9% had experienced sunburn, and only 34.8% reported consistently using sun-safe practices, while 20.1% never used any.

Conclusion: Despite good knowledge of skin cancer and sun exposure risks, adherence to sun protection measures among young adults in Lebanon remains low. Knowledge alone does not predict behavior, highlighting the need for targeted interventions to promote sun-safe practices.

Impact Statement: These findings highlight the need for nationwide educational and behavioral interventions to promote sun protection practices among young adults in Lebanon. Future initiatives should integrate skin cancer awareness programs into university curricula and public health campaigns while addressing behavioral barriers to sun protection.

Abstract Category

Epidemiology & Public Health

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TRANSCRANIAL DOPPLER SCREENING IN A COHORT OF LEBANESE CHILDREN WITH SICKLE CELL DISEASE

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Abstract Body

Children with sickle cell disease (SCD) are at high risk of developing a stroke. Transcranial Doppler (TCD) ultrasonography is a safe and validated tool for identifying children at high risk of stroke and administering stroke preventive therapies to these children. This study describes TCD findings in a cohort of children with SCD followed in a tertiary SCD center in North Lebanon. Patients underwent a non-imaging TCD ultrasonography. Results were classified as normal (<170 cm/s), conditional (170–199 cm/s), or abnormal (>199 cm/s). Patients with conditional or abnormal results underwent imaging TCD (TCDi). Demographic, clinical, laboratory, and treatment data were collected. Statistical analysis included descriptive and inferential testing using Kruskal-Wallis and chi-square tests between TCDi classification groups at a 0.05 significance level. The study was approved by the Institutional Review Board of the study center.

Results: A total of 107 children (HbSS 71%, mean age 9.7 years, hydroxyruea (HU) treated 88% at time of study) underwent TCD screening. Among 107 patients, 52% had normal, 30% conditional, and 18% abnormal TCD results. Imaging TCD showed a decrease in conditional and abnormal TCD prevalence rates to 6.5% and 3.7%. All patients with abnormal TCDi had the HbSS genotype. A marginally or borderline significant trend was seen between abnormal TCDi results and lower mean age, increased annual complicated vaso-occlusive crises, higher WBC and platelet counts. These TCD findings influenced management, leading to close monitoring, transfusion therapy initiation, increasing HU dose, and neurovascular imaging. The prevalence of abnormal TCD in children with SCD from North Lebanon is lower than international reports. This study reinforces the role of an effective TCD screening program directly linked to disease-modifying therapy in children with SCD. Larger studies identifying factors underlying the low abnormal TCD prevalence rate in this population are needed.

Abstract Category

Clinical Research

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INFECTION RATES OF TRANS-PERINEAL VERSUS TRANS-RECTAL PROSTATE BIOPSY: A MIDDLE EASTERN TERTIARY CENTER EXPERIENCE—TIME FOR A CHANGE?

Mohammad Fawaz[1], Oussama Nasrallah[1], Maya Herrera[1], Mohammad Watfa[2], Mohammad El Mir[2], Muhammad Bulbul[1], Albert El Hajj[1], Raja Khauli[1], Bassel Bachir[1], Wassim Wazzan[1], Hisham Mukaddem[3], Riad Khouzami[3], Rami Nasr[1]

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Abstract Body

Background: Prostate cancer is the most diagnosed cancer in men with transrectal ultrasound-guided (TRUS) biopsy being the most frequently used method of tissue diagnosis in the past. With the introduction of the new modality of trans-perineal (TP) ultrasound-guided prostate biopsy, urologists and radiologists adopted this new technique for the decreased rate of complications such as urinary tract infections, bacteremia, sepsis and the avoidance of antimicrobial prophylaxis.

Materials and Methods: Retrospective data was collected on patients from our medical records from May 2019 till December 2023 at the American University of Beirut Medical Center. The data included adult male patients aged 18 years and above undergoing TP or TRUS prostate biopsy. Patients with positive urine culture before biopsy were excluded. Electronic medical records, and pathology and laboratory reports were reviewed to collect patient-related data including age, BMI, smoking, alcohol consumption, medical history and comorbidities. In addition, variables related to the procedure type, the target lesion location, antibiotic prophylaxis, bowel preparation, number of cores taken, and laterality of the tumor were included.

Results: A total of 745 patients underwent an ultrasound guided prostate biopsy performed by 6 attending urologists at AUBMC. 157 (21.1%) patients underwent TRUS biopsy while 588 (78.9%) underwent TP biopsy. 13 patients (1.7%) developed UTI within one month of the biopsy. 6 of them had TRUS (4.1%), and 7 had TP (1.2%) with p = 0.03. Four patients required hospital admission for fever and bacteremia, all of which had undergone TRUS biopsy with hospital stay from 2-5 days receiving meropenem, ciprofloxacin, cefixime or Bactrim.

Conclusion: TP prostate biopsy carries a lower risk of infectious complications and requires no antibiotic prophylaxis compared to TRUS biopsy of the prostate. These results advocate the superiority of the use of TP biopsy over TRUS biopsy.

Abstract Category

Clinical Research

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PREDICTORS OF SURGICAL INTENSIVE CARE UNIT ADMISSION IN PATIENTS REQUIRING EMERGENCY LAPAROTOMY

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Abstract Body

Background: Emergency laparotomy is a high-risk surgical procedure associated with significant morbidity and mortality, often requiring intensive postoperative monitoring. Identifying predictors of Surgical Intensive Care Unit (SICU) admission in these patients can help optimize resource utilization and improve clinical outcomes. Despite the growing burden of emergency surgical cases, limited data exist regarding SICU admission predictors in Lebanon. The aim of this study is to identify the predictors of SICU admission in patients requiring emergency laparotomy.

Materials and Methods: This is a retrospective chart review of adult patients who underwent emergency laparotomy after being transferred from the emergency department or inpatient wards at the American University of Beirut Medical Center (AUBMC) between January 2018 and December 2024. Data collection will include demographic information, comorbidities, preoperative laboratory and imaging findings, intraoperative variables, and postoperative outcomes.

Results: Out of 213 patients, 60.6% required SICU admission. Significant predictors included smoking ($p < 0.001$), COPD ($p = 0.008$), hypertension ($p = 0.003$), and CKD ($p = 0.019$). Preoperative factors associated with SICU admission were lower GCS ($p < 0.001$), higher ASA scores ($p < 0.001$), lower SBP ($p < 0.001$), lower DBP ($p = 0.004$), higher HR ($p = 0.008$), and vasopressor use ($p < 0.001$). Laboratory findings revealed lower hemoglobin ($p < 0.001$), higher INR ($p = 0.002$), elevated creatinine ($p < 0.001$), lower sodium ($p = 0.013$), higher potassium ($p = 0.043$), lower albumin ($p < 0.001$), and higher lactate levels ($p < 0.001$) in SICU patients. Intraoperative predictors included increased vasopressor use ($p < 0.001$), blood product transfusions ($p < 0.001$), and elevated lactate ($p < 0.001$). Postoperative factors linked to SICU admission were lower SBP ($p = 0.002$), lower MAP ($p = 0.007$), and higher rates of mechanical ventilation ($p < 0.001$).

Conclusions: Older age, comorbidities, abnormal vital signs, and key laboratory markers were significant predictors of SICU admission in emergency laparotomy patients.

Impact Statement: Identifying key predictors of SICU admission in emergency laparotomy patients can guide early risk stratification, optimize perioperative management, and improve patient outcomes.

Abstract Category

Clinical Research

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KNOWLEDGE AND ATTITUDE TOWARD MONKEYPOX AMONG THE LEBANESE POPULATION DURING THE SECOND WAVE AND THEIR ATTITUDE TOWARD VACCINATION

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Abstract Body

Background: Monkeypox has spread beyond endemic regions, with cases reported in Lebanon. Public knowledge, perceptions, and vaccine acceptability may have evolved due to increased media coverage and global outbreaks. This study assesses the knowledge and attitudes of the Lebanese population toward monkeypox during the second wave, as well as their willingness to receive the vaccine.

Materials and Methods: A cross-sectional survey was conducted among 2,343 Lebanese residents. Participants' knowledge and attitudes were assessed using a 26-point knowledge index and a Likert scale via an online validated questionnaire. Multiple linear regression analyses identified determinants influencing knowledge, perception, and vaccine acceptance.

Results: The mean knowledge index for the second wave was 9.36 ± 6.76, showing no significant improvement from the first wave (12.72 ± 4.83, $p = 0.078$). Key predictors of increased knowledge included healthcare worker status ($B = 2.778$, $p < 0.001$) and the presence of comorbidities ($B = 1.897$, $p < 0.001$). Conversely, reliance on social media was linked to lower knowledge scores ($B = -1.786$, $p < 0.001$). Attitudes toward monkeypox remained stable and moderately positive (11.76 ± 2.62), similar to those observed in the first wave. Despite these stable attitudes, vaccine acceptance declined from 56.4% to 37.1%, with more positive attitudes still predicting greater vaccine willingness ($r = 0.187$, $p < 0.001$). Notably, hesitancy was highest among women and rural residents.

Conclusion: Despite increased discourse, knowledge gaps persist, and vaccine hesitancy remains high, especially among women, rural populations, and lower socioeconomic groups. Declining willingness to vaccinate highlights the need for stronger public health interventions. Leveraging healthcare professionals and trusted sources could boost vaccine confidence and uptake.

Impact Statement: This study highlights the urgent need for targeted education, trust-based interventions, and strategic public health campaigns in Lebanon to enhance monkeypox awareness and vaccine acceptance while addressing gender and socioeconomic disparities.

Abstract Category

Epidemiology & Public Health

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RETROSPECTIVE STUDY ON SURVIVAL IN SMALL CELL LUNG CANCER WITH BRAIN METASTASES TREATED WITH CHEMOTHERAPY ± IMMUNOTHERAPY IN LEBANON

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Abstract Body

Abstract: Introduction: Small Cell Lung Cancer (SCLC) is an aggressive, poorly differentiated neuroendocrine tumor, accounting for approximately 15% of all lung cancers.

Methods: This is a retrospective study involving data collection from 65 patients with extensive-stage SCLC receiving first-line treatment at HDF and the clinics of Prof. Fadi Karak, Prof. Fadi Nasr, and Prof. Joseph Kattan between January 2003 and May 2024. The study evaluates overall survival (OS), progression-free survival (PFS), and the impact of brain metastases in patients receiving either chemotherapy alone or a combination of chemotherapy and immunotherapy (Tecentriq).

Results: The results show that OS and PFS are similar between chemotherapy alone (OS: 20 months, PFS: 6 months) and the chemotherapy-immunotherapy combination (OS: 20 months, PFS: 6 months), with no statistically significant difference ($p = 0.9$ and $p = 0.4$, respectively). In the presence of brain metastases at diagnosis, OS and PFS are slightly higher with chemotherapy-immunotherapy (OS: 44.13 months, PFS: 11.6 months) compared to chemotherapy alone (OS: 33.13 months, PFS: 10.86 months), without significance ($p = 0.99$ and $p = 0.77$). In cases of brain metastases at 1 year, OS is lower with immunotherapy (19.10 months vs. 34.63 months), although PFS remains similar (8.8 months vs. 8.53 months), with no significant difference ($p = 0.14$ and $p = 0.065$).

Conclusion: This study observes that the addition of immunotherapy to chemotherapy did not significantly improve overall survival or progression-free survival, including in the presence of brain metastases. A slight but non-significant improvement in OS and PFS was noted in patients with brain metastases at diagnosis under the combined treatment.

Keywords: Small Cell Lung Cancer; Atezolizumab; Immune Checkpoint-Inhibitor.

Abstract Category

Epidemiology & Public Health

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HUMAN PAPILLOMAVIRUS (HPV) VACCINE HESITANCY, KNOWLEDGE, AND BARRIERS AMONG MALES AND FATHERS COMPARED TO FEMALES IN LEBANON: COMPARATIVE CROSS-SECTIONAL STUDY

Jana Kotaich[1,2,3], Ahmad Afyouni[1,2,4], Abbas Al Bazzal[1], Farah Samir Kanaan[2,5], Vincent Hakim[2,6], Gaelle Salame[2,6], Clara Dagher[2,6], Rana Al Ashkar[7], Inaam Nasrallah[1,8], Pascale Salameh[1,3,9]

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Abstract Body

Background: Human papillomavirus (HPV) is a leading cause of cervical and other cancers in both sexes. While HPV vaccination can prevent these cancers, uptake remains low in Lebanon. Limited knowledge among individuals, particularly fathers, and misconceptions about the vaccine's safety contribute to hesitancy in vaccinating children.

Materials and Methods: A multicentric, cross-sectional survey was conducted among 710 young adults across Lebanon to assess HPV-related knowledge, vaccine hesitancy, and perceived barriers. The survey consisted of five sections: sociodemographics, the validated HPV Knowledge Questionnaire (HPV-KQ), HPV Vaccine Hesitancy Scale, HPV Vaccine Barriers Scale, and Likelihood of Vaccination.

Results: This study included 388 males (54.6%) and 322 females (45.4%). Females demonstrated significantly higher HPV knowledge scores than males (mean: 15.07 vs. 12.44; $p < 0.001$), while barrier scores did not differ significantly by sex ($p = 0.423$). Vaccine-hesitant individuals had lower knowledge scores (mean: 11.02 vs. 14.50; $p < 0.001$) and higher barrier scores (mean: 3.23 vs. 3.02; $p = 0.001$). Females and confident participants were more likely to (1) consider HPV vaccination in the future, (2) accept it if offered at low or no cost, and (3) encourage others to vaccinate ($p < 0.001$ for all). Linear regression showed that knowledge positively predicted confidence (ß = 0.34, $p < 0.001$) and negatively predicted perceived barriers (ß = -0.15, $p < 0.001$).

Conclusion: HPV vaccine hesitancy in Lebanon is significantly associated with lower knowledge and greater perceived barriers, particularly among males. Enhancing awareness and addressing misconceptions are essential steps toward improving vaccine acceptance and uptake.

Impact Statement: This study highlights the urgent need for targeted educational campaigns and accessible vaccination programs to increase HPV vaccine confidence and coverage, ultimately reducing HPV-related cancer burden in Lebanon.

Abstract Category

Epidemiology & Public Health

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PREVALENCE OF ELEVATED LIPOPROTEIN(A) LEVELS AND ITS CONCORDANCE WITH LIPID PANEL RESULTS IN ADULT LEBANESE PATIENTS: A PRELIMINARY ANALYSIS

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Abstract Body

Introduction: Elevated Lp(a) levels are an independent cardiovascular risk factor that persists despite LDL-C reduction with statin therapy.

Methods: Patients from our Lp(a) registry were included in a preliminary analysis to evaluate the prevalence of elevated Lp(a) levels. Our objective was to determine the proportion of patients with elevated Lp(a) despite normal LDL-C.

Results: We included 47 patients (median age 77.6 years, 51.06% females). Coronary artery disease was reported in 38.30% of patients, with 27.66% having a history of percutaneous coronary intervention (PCI) and 8.51% a history of coronary artery bypass grafting (CABG). 46.81% and 19.12% of patients received moderate- and high-intensity statins, respectively. Only 10.64% of patients received ezetimibe plus statin therapy. The mean HDL-C was 51.13 ± 14.3 mg/dL, LDL-C was 95.47 ± 35.5 mg/dL, and median triglycerides levels were 122 mg/dL (IQR 97.5–189). Median Lp(a) was 43.30 nmol/L (IQR 25.5–111.5) with 34.04% of patients having elevated Lp(a). Lp(a) levels did not correlate with LDL, HDL, or triglycerides. Only 34% of patients had both LDL-C < 100 mg/dL and Lp(a) < 75 nmol/L. However, 31.91% of patients with normal LDL-C levels still had elevated Lp(a) levels > 75 nmol/L. Of these patients with normal LDL-C and elevated Lp(a) levels, 66.67% were receiving high-intensity statins whereas the remaining were on moderate-intensity statins. Lp(a) levels were higher in patients with a history of PCI (88.0 vs. 32.5 nmol/L, p = 0.038) and CABG (145.5 vs. 39.0 nmol/L, p = 0.034). We also showed that all patients who underwent CABG had elevated Lp(a) > 75 nmol/L.

Conclusion: One-third of patients present with elevated Lp(a) despite achieving well-controlled LDL-C, highlighting a subpopulation at residual cardiovascular risk. This underscores the need for enhanced monitoring and targeted risk management.

Abstract Category

Clinical Research

POSTER PRESENTATION

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SCREENING FOR EXTENDED SPECTRUM BETA-LACTAMASE–PRODUCING ORGANISMS IN COLORECTAL AND GENITOURINARY TRACT SURGERIES AT A PRIVATE UNIVERSITY HOSPITAL

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Abstract Body

Introduction. Recently, the global prevalence of ESBL-producing Enterobacteriaceae has been increasing, with significant implications for community-acquired and healthcare-associated infections. Although antimicrobial prophylaxis is a standard practice for preventing postoperative infections, ESBL-producing bacteria are frequently not covered by current regimens. This study aimed to assess the prevalence of ESBL carriage among patients scheduled for GI and GU tract surgeries.

Methods: We conducted an observational analysis at the Lebanese American University Medical Center- Rizk Hospital in Lebanon from February 4, 2013 to July 15, 2014.

Results: The study population included 126 patients, with 23.8% ESBL carriers. Higher carriage was observed with the higher age group. In the bivariate analysis, smoking and recent antibiotic use showed a significant difference for ESBL carriage, similarly for previous admission and the length or type of hospitalization. After the multivariate analysis, only smoking status remained a significant factor. No patients developed surgical site infection.

Conclusion: The ESBL carriage rate in our institution is high compared with international prevalence. Smoking remained the main risk factor. Despite this, none of the recruited patients who underwent GI or GU tract surgeries developed SSI. Therefore, it is suggested that infections with ESBL-producing organisms can be multifactorial and not only related to colonization alone. To explore risk factors, further larger studies are warranted.

Abstract Category

Clinical Research

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IPSILATERAL THIRD AMPUTATION FOLLOWING LOWER EXTREMITY INDEX AMPUTATION FOR DIABETIC FOOT INFECTION.

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Abstract Body

Lower extremity amputations (LEA) are serious complications of the infected diabetic foot. Subsequent amputations are underreported and the occurrence of an ipsilateral second re-amputation (third amputation) is unknown. This is a retrospective study of a continuous series of patients admitted for LEA due to diabetic foot complications, with a minimum of 2 years of follow-up after the first re-amputation. A total of 111 patients comprising 149 index amputations; 97 and 52 cases in the minor and major type groups, respectively. The primary outcomes were the observed frequencies of first and second re-amputations with comparative analysis based on amputation type. Logistic regression analysis was used to look for independent risk factors. Out of 149 index LEA cases, 111 cases (74.5%) had no re-amputation. First re-amputation frequencies were 25.5%, 35% and 7.7% for the whole sample, minor and major groups, respectively. Second re-amputation frequencies were 34.2%, 31.6% and 2.6% for the whole sample, minor and major groups, respectively. Infection recurrence was the cause in 89.5% and 100% of cases for first and second re-amputation. Out of the 13 second re-amputation cases in the minor group, 30.7% were minor and 69.3% were major amputations. The mean time for the first re-amputation was 5.4 ±9.4 months and that for the second re-amputation was 9.5 ±7.1 months ($p = 0.04$). For the first re-amputation, independent risk factors were smoking ($p = 0.04$) and creatinine level ($p = 0.02$) as outcome. For the second re-amputation outcome, male sex was the only independent variable ($p = 0.03$). This study demonstrated that a second re-amputation, mostly major, was needed in more than one third of first re-amputation cases. Second re-amputation could be a relevant major endpoint outcome in this frail population.

Abstract Category

Clinical Research

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IMPACT OF THE COVID-19 PANDEMIC ON BREAST CANCER PATIENT CARE: RESULTS FROM A TERTIARY CARE CENTER IN LEBANON

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Abstract Body

Background: We aimed to evaluate the impact of COVID-19 on breast cancer care in terms of the stage at presentation, treatment delays, and follow-up in a tertiary care center in Lebanon.

Materials and Methods: This retrospective study compared patients with breast cancer who presented to a tertiary care center in Lebanon before (September 2019-December 2019) and during (September 2020-December 2020) the COVID-19 pandemic. We extracted data from the electronic medical records of patients with breast cancer who had their initial presentation, were under treatment, or were on follow-up during our period of interest.

Results: Of the 333 patients, 186 visited the hospital in the pre–COVID-19 period and 147 during the pandemic, showing almost a 12% reduction in the number of patients during the COVID-19 pandemic. In the pre-COVID period, more patients presented for screening (52%); however, more symptomatic patients presented during the pandemic (51.4%). Almost 54% had an advanced stage at presentation during the pandemic compared with 48% before the pandemic but with no statistical significance ($p = .50$). Significantly fewer patients came for chemotherapy in the COVID-19 period (38.1%) compared with the pre–COVID-19 period (52.2%). Fewer patients underwent surgery during the pandemic, although the difference was not statistically significant. Multivariate analysis showed that the COVID-19 pandemic was not associated with having an advanced stage at presentation ($p = .24$).

Conclusions: The management of breast cancer was not substantially affected by the COVID-19 pandemic in a sample of Lebanese patients. However, 4 months might not be sufficient to draw a solid conclusion.

Impact Statement: We were able to escape the pandemic with the least amount of damage to patients with breast cancer regarding their management.

Abstract Category

Clinical Research

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GLP1-RA AND SGLT2-I FOR THE PREVENTION OR DELAY OF TYPE 2 DIABETES MELLITUS ONSET: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Abstract Body

Background: As treatment for diabetes, SGLT2-i and GLP-1-RA have shown promising results in glycemic control, along with weight loss and cardiovascular protection. Our meta-analysis aims to systematically assess the effectiveness of SGLT2-i and GLP-1-RA in slowing down or preventing diabetes onset. By synthesizing the existing evidence, we aim to determine whether early intervention with these medications can effectively mitigate the risk of developing diabetes in prediabetic individuals.

Methods: We focused on randomized controlled trials that included the use of SGLT-2-i, GLP-1-RA, or both. The database search included PubMed, Embase, and Cochrane. Statistical analysis was performed using IBM SPSS, and the results were reported with a 95% confidence interval.

Results: The meta-analysis included 14 studies, the majority being double blinded (13/14). Balanced baseline characteristics between treatment and control groups ensured effective randomization. Both medications demonstrated significant reductions in body weight when given individually. This effect was amplified when given as a combination therapy (SMD: -23, 95% CI: [-27.9, -18.10]). Fasting plasma glucose levels decreased in patients receiving treatment (SMD: -5.40, 95% CI: [-10.70, 2.24]) compared to control groups. Moreover, HbA1c levels were assessed in eight studies, which reported significant reductions in treatment groups with a standardized mean difference of -6.95 (95% CI: [-14.24, 2.98], p-value= 0.02) for the overall effect size. Furthermore, three studies showed that SGLT-2-i reduced DM onset, though statistical significance was not achieved (p-value = 0.08, SMD: -2.21, CI: [-5.11, 0.69]). These findings highlight the efficacy of SGLT-2-i and GLP-1-RA in reducing HbA1C, fasting blood glucose, and body weight, while also potentially delaying the progression to type 2 diabetes mellitus.

Conclusion: Early medical intervention with SGLT2i or GLP-1 RA aids in delaying the onset of T2DM and its adverse effects. However, more studies are needed to accurately compare the two and further investigate the potential of combination therapy.

Abstract Category

Clinical Research

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STRATEGIC SAMPLING IN TRANSPERINEAL PROSTATE BIOPSY: EVALUATING THE BENEITS OF TARGETED BIOPSY ALONE VS. TARGETED PLUS RANDOM BIOPSY

Oussama Nasrallah, Muhammad Bulbul, Rami Nasr, Riad Khouzami, Maya Herrera, Mohammad Fawaz, Moustafa Al Hattab

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Abstract Body

Background: Multi-parametric MRI (mp-MRI) has become a standard practice prior to prostate biopsy and the incorporation of ultrasound fusion has allowed precise and accurate targeted prostate biopsies (TPB). The role of random biopsies in the diagnosis of prostate cancer and clinically significant prostate cancer is yet to be determined. We aim to describe the value and significance of random biopsies with TPB in 464 patients at our institution.

Methods: All patients underwent transperineal MRI-targeted biopsy with ultrasound fusion using the Koelis Machine, and random prostate biopsies at AUBMC. The detection of prostate cancer (PCa) and clinically significant prostate cancer (csPCa) was compared between MRI-targeted biopsy (TB) and combined biopsy (CB) (target biopsy plus random biopsies) in patients with suspected PCa.

Results: PCa was diagnosed in 253 patients (54.5%) by TB. CB led to cancer diagnosis in 264 patients (56.9%) with a total increase as compared to TB alone of 11 patients (2.4%, $p<0.001$), and an increase in csPCa detection by 7 patients(1.5%) shown in Table 2. CB led to cancer upgrading to a higher-grade group vis-à-vis TB alone in 9 men (1.9% of all patients), and a higher detection of ISUP Grade Group 1 and 2 prostate cancer than TB alone with $p = 0.046$ and 0.025, respectively. There was no significant difference in cancer detection for other ISUP Grade Group shown in Table 2. Comparing TB and CB according to the PIRADS score showed a significant difference in cancer detection among patients with PIRADS 4 ($p = 0.008$), and no significant difference in PIRADS 3 and PIRADS 5 lesions as shown in Table 3.

Conclusion: CB seems to have no significant benefit in the diagnosis of prostate cancer in patients with a PIRADS 5 or PIRADS 3 lesion detected on mp-MRI.

Impact Statement: Patients with PIRADS 4 lesions may benefit from random biopsies with a significant increased detection of 4.2%.

Abstract Category

Clinical Research

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TARGETED VERSUS TARGETED PLUS RANDOM TRANSPERINEAL PROSTATE BIOPSY IN PATIENTS WITH A SINGLE LESION ON MRI: IS THERE ADDED VALUE?

Oussama Nasrallah, Muhammad Bulbul, Rami Nasr, Riad Khouzami, Maya Herrera, Mohammad Fawaz, Moustafa Al Hattab

American University of Beirut Medical Center, Lebanon.

Abstract Body

Background: Standardization of multi-parametric MRI (mp-MRI) prior to prostate biopsy and the incorporation of ultrasound fusion allowed precise and accurate targeted prostate biopsies. Random biopsies, still performed as routine, are taken from the ipsilateral and contralateral side of the prostatic lesion. We aim to determine the added value of combined biopsies (CB) compared to targeted biopsy (TB) only in patients with a single lesion on mp-MRI.

Methods: 196 patients had a single unilateral MRI lesion and underwent target and random biopsy under MRI-Ultrasound fusion at AUBMC. Biopsy results of TB alone, CB (targeted and random biopsies from both sides), TB+ipsilateral random biopsy (TB+ipsi), and TB+contralateral random biopsy (TB+contra) were analyzed.

Results: Prostate cancer detection rate in TB alone was 54.6% compared to CB (58.7%) (p = 0.005). Also, TB+ipsi had a detection rate of 56.6% (p = 0.046) and TB+contra of 57.1% (p = 0.025) when compared to TB alone. For clinically significant prostate cancer (csPCa), only CB and TB+contra showed significant increase in cancer detection (p-value: CB = 0.01, TB+contra = 0.046) when compared to TB alone. When comparing TB, CB, TB+Ipsi, TB+contra according to the PIRADS score of the single lesion, there was no significant difference in patients with a single PIRADS 5 or PIRADS 3 lesion. However, there was significance in PIRADS 4 lesions (p = 0.014), in CB (52.7%) compared to TB (44.6%).

Conclusion: CB and TB+contra seem to have a benefit in the diagnosis of clinically significant prostate cancer in patients with a single lesion detected on mp-MRI. CB seems to have a significant benefit in the diagnosis of prostate cancer in patients with a single PIRADS 4 lesion on mp-MRI.

Impact Statement: There is no benefit from taking random biopsies in patients with a single PIRADS 5 lesion.

Abstract Category

Clinical Research

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FOREHEAD BURNS FOLLOWING ASH WEDNESDAY RITUALS: A RETROSPECTIVE OBSERVATIONAL ANALYSIS

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Abstract Body

Background: Ash Wednesday rituals involve the application of ashes, traditionally derived from burned olive leaves, onto the forehead. However, reports of chemical burns following this practice have raised concerns regarding the safety of the ritual. This study investigates the incidence, severity, and chemical basis of burns resulting from olive leaf ashes and proposes preventive measures.

Materials and Methods: A retrospective observational analysis was conducted on 16 patients (9 females, 7 males, aged 16–57) presenting with forehead burns after Ash Wednesday ceremonies. Burn severity, pain intensity, treatment, and outcomes were documented. The chemical composition of olive leaf ashes was reviewed to understand their potential to cause burns.

Results: Most burns (75%) developed within hours of application. Deep second-degree burns were the most common (62.5%), followed by superficial second-degree (25%) and first-degree burns (12.5%). Pain intensity varied, with severe pain (NRS-11: 8) in 31% of cases. Post-inflammatory hyperpigmentation persisted for months in several patients, with one case leading to scarring. Analysis revealed that olive leaf ashes contain alkaline compounds, including potassium carbonate and hydroxide, which can cause severe chemical burns due to their caustic properties.

Conclusion: Olive leaf ashes pose a significant risk of chemical burns due to their alkaline nature. Raising awareness among religious communities and modifying ritual practices, such as buffering ashes or using fresh green leaves, can help prevent burn-related injuries.

Impact Statement: This study highlights an overlooked public health concern, advocating for safer religious practices to prevent chemical burns from traditional rituals.

Abstract Category

Clinical Research

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DISCHARGE AGAINST MEDICAL ADVICE IN A PRIVATE EMERGENCY DEPARTMENT

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Abstract Body

Background: Discharge against medical advice (DAMA) is a common problem worldwide, associated with increased mortality rates and higher emergency department (ED) revisit rates. Understanding the characteristics, reasons, and clinical outcomes of patients leaving against medical advice is essential for improving patient care and healthcare policies.

Materials and Methods: This retrospective cross-sectional study was conducted at the Lebanese American University Medical Center's ED between 2019 and 2022. Data on patient demographics, reasons for DAMA, and trends over time were analyzed.

Results: Over the 4-year duration, 42,672 patients visited the ED, of whom 2,767 (6.4%) left against medical advice. DAMA rates varied across the years: 3.6% in 2019, rising to 7% in 2020, peaking at 10% in 2021, and declining to 5.8% in 2022. The increase in 2020 and 2021 coincided with Lebanon's economic collapse that hit the country at the end of 2019. The most frequently cited reason for DAMA was financial constraints, which accounted for half of the total cases (1,375 cases, 50%). Other contributing factors included COVID-19 isolation costs that started in 2020 (675 cases), non-urgent cases referred to clinics (301 cases), and long waiting times for inpatient bed availability(284 cases).

Conclusion: DAMA rates vary from one emergency department to another based on multiple factors, including economic conditions, healthcare system limitations, and hospital-specific policies. Addressing financial barriers and system inefficiencies is crucial to mitigating DAMA rates and improving patient outcomes.

Impact Statement: This study highlights the impact of Lebanon's economic crisis on DAMA rates in the ED. Targeted policy interventions, financial support mechanisms, and hospital-level improvements are needed to reduce DAMA and enhance patient care continuity.

Abstract Category

Epidemiology & Public Health

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ASSESSING HEART RATE VARIABILITY BIOFEEDBACK FOR EXPERIMENTAL PAIN: A PROMISING NON-INVASIVE PAIN MANAGEMENT STRATEGY

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Abstract Body

Background: Heart rate variability (HRV) biofeedback is a non-invasive technique that enhances autonomic nervous system function through controlled breathing, aimed at optimizing respiratory sinus arrhythmia. It has been linked to improved cardiovascular health, stress reduction, and overall well-being. This study examines whether HRV-biofeedback training (three 5-minute sessions daily) influences experimental pain perception.

Materials and Methods: Thirty-two healthy adults participated in a three-week intervention involving daily breathing exercises. The experimental group (n = 20) practiced application-guided breathing at 0.1 Hz (UrgoFeel), while the control group (n = 12) engaged in breath counting. Pain sensitivity and tolerance were measured before and after training using a numerical pain scale, pain intensity scores (mA), withdrawal latency (seconds), and physiological indicators like skin conductance, heart rate, and respiration rate. Pain responses were assessed through a cold pressor task (CPT - hand immersion in 10°C water for tonic pain) and electrical stimulation via transcutaneous electrical nerve stimulation (TENS - five nociceptive stimulations for phasic pain).

Results: HRV-biofeedback training resulted in a slower respiration rate during TENS (19.4±4.5 to 15.1±4.8 bpm; p=0.007) and lower heart rate during CPT (73.4±13.3 vs. 85.2±12.4 in controls; p=0.008). Only the HRV group showed a significant increased pain threshold during TENS (4.4±1.2 to 5.1±1.3 mA; $p < 0.001$). During CPT, the control group exhibited reduced withdrawal latency (71.2±30 to 53.5±21.24 sec; p = 0.002), whereas the HRV group displayed increased pain threshold latency (29.5±18.5 to 34.5±20.6 sec; p = 0.012) and withdrawal latency (p = 0.02), along with reduced skin conductance.

Conclusions: HRV-biofeedback may be an effective complementary pain management approach, particularly for individuals with autonomic dysfunction or pediatric populations.

Impact Statement: This study highlights HRV-biofeedback's potential as a non-invasive therapy for improving autonomic regulation, increasing pain tolerance, and reducing stress responses.

Abstract Category

Clinical Research

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SEROLOGICAL AND MOLECULAR PREVALENCE OF HEPATITIS E VIRUS AMONG BLOOD DONORS FROM LEBANON

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Abstract Body

Background: Hepatitis E virus (HEV) infection is an emerging global health concern affecting both developed and developing countries. While several countries have implemented HEV screening protocols before blood transfusion, the serological and molecular prevalence of HEV among blood donors has not been previously investigated in Lebanon. This study aims to evaluate the seroprevalence of anti-HEV antibodies and the potential HEV viremia in blood donors in Lebanon to determine the need for implementing HEV screening in blood donations before transfusion.

Methods: A total of 2,217 blood donations were collected from different blood collection centers across Lebanon, covering the South, North, Beirut, and Mount Lebanon governorates. Plasma samples were screened for anti-HEV IgG and anti-HEV IgM antibodies using an enzyme-linked immunosorbent assay (ELISA). All seropositive samples were further tested for HEV RNA using polymerase chain reaction (PCR) to detect active HEV viremia.

Results: Of the 2,217 samples, 47 (2.12%) were reactive for anti-HEV antibodies. Among these, 43 (91.49%) were reactive for anti-HEV IgG alone, 2 (4.25%) were reactive for anti-HEV IgM alone, and 1 (2.13%) was reactive for both anti-HEV IgG and IgM. The highest proportion of reactive cases was observed in Mount Lebanon (43.48%, n = 20), followed by Beirut (30.44%, n = 14), North (15.21%, n = 7), and South (10.87%, n = 5). The overall seroprevalence was 2.03% (45/2,217) for anti-HEV IgG and 0.13% (3/2,217) for anti-HEV IgM. No HEV viremia was detected in any of the reactive samples.

Conclusion: Although the overall seroprevalence of anti-HEV antibodies among blood donors in Lebanon is relatively low, implementing a targeted HEV screening strategy is crucial, particularly for high-risk blood recipients, to prevent potential transmission through blood donations and reduce the risk of severe complications or fatal outcomes.

Impact Statement: This study highlights the seroprevalence of anti-HEV antibodies and the absence of HEV viremia, stressing the need for targeted screening.

Abstract Category

Clinical Research

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ASSOCIATION BETWEEN RELIGIOSITY AND ANXIETY AND DEPRESSION AMONG UNIVERSITY STUDENTS: A CROSS-SECTIONAL STUDY

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Abstract Body

Background: Religion, a fundamental element of human history, provides meaning and a coping mechanism, contributing to lower depression and anxiety levels. However, some may argue that strict religious doctrines and the spread of misconceptions and stigmas may increase the pressure on religious individuals, leading to higher levels of depression and anxiety. As it has not been addressed yet in Lebanon, this study aims to assess the influence of religiosity and potential confounding factors on anxiety and depression among university students in Lebanon.

Methods: A cross-sectional study was conducted using an online questionnaire disseminated to university students. The participants' demographics, lifestyle habits, religiosity using the Religious Commitment Inventory 10 (RCI-10), depression using the Patient Health Questionnaire (PHQ-9), and anxiety levels using the Generalized Anxiety Disorder Questionnaire (GAD-7) were assessed. Bivariate and multivariable analyses were conducted to assess the association between the dependent variables (PHQ-9 and GAD-7, respectively) and religiosity by controlling for the effect of potential confounders. An alpha of 0.05 was considered statistically significant.

Results: A total of 353 participants were included. Female gender and health problems were associated with higher anxiety levels, while religiosity was associated with decreased anxiety levels. For depression, social media use and health problems were associated with higher depression levels, while physical activity and religiosity were associated with lower depression levels.

Conclusion: The negative association between religiosity and depression and anxiety highlights the importance of addressing religious beliefs in clinical practice.

Impact Statement: Future studies should assess the causal relationship between religiosity and anxiety and depression, while taking other contributing factors into consideration. Implementing physical activity in the medical management of depression should also be explored.

Abstract Category

Epidemiology & Public Health

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OPTIMIZING RISK PREDICTION FOR ACQUIRED PRESSURE ULCERS IN THE MEDICAL ICU: "DEVELOPMENT AND VALIDATION OF THE RISK MODEL"

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Abstract Body

Background: Acquired pressure ulcers (PUs) are a significant concern in the Medical Intensive Care Unit (MICU), contributing to patient morbidity, prolonged hospital stays, and increased healthcare costs. The ability to predict the risk of PU development in critically ill patients is crucial. This study aims to develop and validate the RISK Model, a predictive tool designed to assess pressure ulcers in the ICU.

Methods: We conducted a retrospective cohort study using patient data from *Hôtel-Dieu de France*, analyzing clinical variables, including comorbidities, mobility, nutritional status, and length of ICU stay.

Results: Of the 1,274 patients admitted to the MICU analyzed, 93 (7.3%) developed pressure ulcers during their ICU stay. Univariate analysis identified many variables that were significantly associated with pressure ulcer development, both before ICU admission and during the ICU stay. Multivariate logistic regression analysis identified key risk factors: length of hospital stay prior to ICU admission (OR = 1.041, 95% CI[1.013–1.071], p = 0.004); arterial hypertension (OR = 2.373, 95% CI[1.222–4.608], p = 0.011); duration of ICU stay (OR = 1.075, 95% CI[1.037–1.113], p < 0.001); usage of vasopressors with a moderate dose of norepinephrine (< 1 gamma) (OR = 2.149, 95% CI[1.126–4.103], p = 0.020), while high doses (> 1 gamma) increased the risk fourfold (OR = 4.088, 95% CI[1.726–9.682], p = 0.001). The RISK Model demonstrated excellent predictive performance, with an area under the curve (AUC) of 0.874, indicating strong discriminatory power.

Conclusion: The RISK Model shows promise as a reliable, evidence-based tool for identifying high-risk ICU patients, facilitating targeted prevention strategies, and ultimately improving patient outcomes. Future studies should focus on prospective validation and integration of the model into clinical practice.

Impact Statement: The introduction of a validated tool dedicated to assessing bedsore risk in fragile ICU patients enhances early detection and enables timely preventive measures. Its implementation improves patient outcomes, reduces complications, and lowers healthcare costs.

Abstract Category

Clinical Research

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EFFECTS OF DISCONTINUING CYCLIN-DEPENDENT KINASE INHIBITORS ON METASTATIC BREAST CANCER DURING LEBANON'S ECONOMIC CRISIS

Nadim Elias

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Abstract Body

Background : This study examines the intermittent discontinuation of palbociclib depending on its availability and its clinical outcomes during the Lebanese economic crisis in patients with metastatic Breast Cancer (BC) HR+ between the years 2019 and 2023.

Materials and Methods: This study conducts a retrospective analysis on 46 patients treated with palbociclib – letrozol between the years 2019 and 2023 in Lebanon. It used descriptive tables and figures to summarize demographic, clinical and outcome characteristics. It analyzed the data using Student's t-test for parametric variables, Wilcoxon and Kruskal-Wallis tests for non-parametric variables, and Chi-2 and Fisher tests for qualitative variables. Pearson's correlation and regression models were used to assess the association between the intermittent administration of palbociclib and its clinical outcomes.

Results : Our sample had a mean age of 59.33 +/- 13.27 years. 87% had ductal carcinomas and 13% had lobular carcinomas. 52.2% of patients had treatment for their metastases prior to palbociclib, and a discontinuation was observed in 63.1 %. Discontinuation is associated with advanced age (p = 0.048) and statistically reduces PFS (p = 0.026). The intermittent drug intake also affects PFS (p = 0.03) but has no effect on the disease progression. The use of palbociclib copies from third world countries did not show any significant difference with the original brand.

Conclusion : This study is the only research in the world focused on intermittent intake of palbociclib. The intermittent discontinuation of palbociclib is influenced by age and affects the PFS. These results highlight the significance of adherence and protocol compliance.

Impact Statement : Our study demonstrates the harmful effects of palbociclib discontinuation and intermittent dosing on progression-free survival in patients with HR+ metastatic breast cancer. We strongly recommend that oncology patients comply with previously approved treatment regimens, with no discontinuation of palbociclib and no intermittent use of palbociclib.

Abstract Category

Clinical Research

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EXPLORING THE IMPACT OF AN INTERVENTIONAL APPROACH TO RESIDENT TEACHING IN ANESTHESIOLOGY CLERKSHIPS

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Abstract Body

Background: Residents play a major role in medical student education during clinical clerkships; yet many residency programs lack formal training in teaching skills. While various "Residents-as-Teachers" (RAT) programs exist, few are tailored to anesthesiology, and little is known about students' perceptions of effective teaching behaviors in this setting.

Materials and Methods: The intervention targeted 1st to 3rd year clinical anesthesiology residents, and its effectiveness was evaluated through medical student feedback. We employed a pre-post-intervention design using a Quality of Supervision Questionnaire, with additional items on learning outcomes, career aspirations, and satisfaction. An open-ended question was included to elicit students' feedback on the behaviors of effective resident teachers that improved post-intervention. Data were analyzed using descriptive statistics and thematic analysis of narrative responses.

Results: Twenty-two residents participated in the intervention, and 132 medical students completed the questionnaires (77/106 pre-intervention, 55/58 post-intervention). Post-intervention, the mean score for the overall quality of teaching increased significantly (2.98 ± 0.53 pre-intervention vs. 3.40 ± 0.46 post-intervention on a 4-point scale, $p < 0.001$), with notable improvements across multiple domains, including provision of feedback and stimulation to patient-based learning and autonomy. Student learning outcomes, interest in anesthesiology as a career, and overall rotation satisfaction also improved significantly ($p < 0.001$ for all). The percentage of students identifying effective teaching behaviors increased from 63% to 96%. Thematic analysis revealed more prevalent teacher characteristics (commitment, positive attitude, competence) and enhanced teaching strategies (cognitive, psychomotor, affective) with a direct positive impact on learning domains post-intervention.

Conclusion: The study emphasizes the importance of formal training for anesthesiology residents to enhance resident teaching quality and improve medical student learning outcomes.

Impact Statement: Our findings provide effective resident teaching strategies which educators can use to refine training programs in anesthesiology.

Abstract Category

Clinical Research

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TREATMENT OF EPILEPSY IN TIMES OF CRISIS: THE PHYSICIAN'S PERSPECTIVE

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Abstract Body

Background: Epilepsy is a major public health concern, especially during economic crises. In Lebanon, the economic downturn since 2019 has severely disrupted access to medications, leading to an increase in relapses and hospitalizations. This study aims to explore the strategies adopted by neurologists and pediatric neurologists in response to these challenges, as well as the main obstacles they face.

Materials and Methods: A cross-sectional survey was conducted among Lebanese neurologists and child neurologists using an anonymous questionnaire. The questions covered their prescription practices, changes due to the crisis, alternative solutions, and potential impacts on the quality of care. Data analysis included descriptive and inferential methods.

Results: Thirty-six doctors responded to the survey. About 63.89% of physicians reported modifying their prescriptions, prioritizing cost, availability, and efficacy over guidelines. The use of alternative medications frequently resulted in relapses (41.67% of cases). Financial barriers to invasive treatments, such as surgery and vagus nerve stimulation, were significant for over 70% of the respondents. Additionally, 36.11% of the participants observed an increase in epilepsy-related hospitalizations.

Conclusion: The economic crisis has profoundly affected epilepsy management in Lebanon, emphasizing the urgent need for public policies to improve access to care. The findings highlight the importance of enhanced collaboration among stakeholders and sustainable solutions to address these challenges.

Impact Statement: This research is the first of its kind in Lebanon and other crisis-affected countries, focusing on the motivations of physicians in prescribing drugs during economic crises or drug shortages. Few studies have explored these factors, especially in times of crisis. By addressing this gap, the study contributes valuable insights that can inform policies to improve medication access and patient care in such challenging contexts.

Keywords: Epilepsy, economic crisis, healthcare access, neurologists, alternative treatments.

Abstract Category

Epidemiology & Public Health

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GENE-BASED ARTIFICIAL INTELLIGENCE APPROACH OUTPERFORMS CONVENTIONAL CLINICAL PREDICTORS IN OVARIAN CANCER PROGNOSIS

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Abstract Body

Background: Ovarian cancer is characterized by high recurrence rates and poor survival outcomes. Current grading systems often fall short in accurately predicting recurrence risk and overall survival. Therefore, improved predictive tools utilizing advanced computational approaches, such as machine learning algorithms, are critically needed to enhance clinical decision-making and patient management.

Materials and Methods: We analyzed data from 600 patients diagnosed with Ovarian Serous Cystadenocarcinoma available in the TCGA OV cBioportal database. A total of 558 patient samples provided z-scores of mRNA expression for selected genes alongside corresponding overall survival (OS) data. Over 500 significant survival-associated genes identified from the GEPIA2 database were further analyzed using protein-protein interaction (PPI) networks from the STRING database. Genes exhibiting significant PPI interactions underwent differential expression analysis comparing ovarian cancer to normal tissue. Selected genes were then integrated into a Random Forest Classifier to construct a predictive model for survival.

Results: PPI network analysis resulted in 54 clustered genes, which were further analyzed for differential expression between ovarian cancer and normal tissue. From these analyses, we identified six genes (CXCL9, CXCL10, CXCL11, MRPL3, MRPL14, and SCNN1A) significantly upregulated in ovarian cancer and strongly associated with survival outcomes. The Random Forest Classifier, based on these genes, demonstrated superior predictive accuracy for survival (75%) compared to traditional clinical factors such as patient age (54%), cancer stage (52%), and tumor grade (53%).

Conclusions: Our study successfully developed a gene signature-based Random Forest Classifier that significantly improves prediction of overall survival in ovarian cancer patients compared to conventional clinical assessments.

Impact Statement: This machine learning-based predictive tool offers clinicians a robust and precise method to assess ovarian cancer prognosis, potentially guiding more personalized treatment approaches and improving patient outcomes.

Abstract Category

Clinical Research

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ASSOCIATION OF CSMD3 MUTATION WITH RESPONSE TO IMMUNE CHECKPOINT INHIBITORS

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Abstract Body

Background: CSMD3, the fourth most commonly mutated gene in cancers, has an unclear relationship with the efficacy of Immune Checkpoint Inhibitors (ICIs) in solid tumors. This study aims to explore the association between CSMD3 mutations and key genomic factors influencing ICI response, as well as the clinical outcomes in ICI-treated patients.

Methods: This cohort study analyzed genomic data from 10,953 patients in the TCGA PanCancer Atlas, spanning 33 solid tumor types. Key genomic factors, including tumor mutational burden (TMB), neoantigen load, immune-related gene signatures, and the tumor immune microenvironment, were assessed. The influence of CSMD3 mutations on progression-free survival (PFS) was subsequently validated using data from Vanderbilt University Medical Center's Cancer-Immu database.

Results: CSMD3 mutations were present in 2,304 of 10,195 evaluable patients (21.03%). CSMD3-mutated tumors exhibited higher TMB load (Median [IQR]: 70.6 [18.88-190.22] vs 4.7 [1.78-14.42]; $p < 0.001$) and neoantigen load compared to wild-type tumors (median [IQR], 216.0 [33.5-398.5] vs 52.0 [14.2-89.8]; $p < 0.001$). Additionally, a dual-positive CD8A and PD-L1 tumor immune microenvironment was more prevalent in CSMD3-mutated tumors (OR = 2.06; $p < 0.001$). All 40 immune-related genes analyzed showed differential expression between CSMD3-mutated and wild-type tumors ($p < 0.001$). The aggregated cohort from the Cancer-Immu database demonstrated a statistically significant improvement in PFS for the CSMD3-mutated group compared to the wild type, both treated with immune checkpoint inhibitors ($p < 0.001$).

Conclusion: CSMD3 mutations are associated with genomic features predictive of ICI response and better clinical outcomes in solid tumors, suggesting their potential as biomarkers for guiding immunotherapy.

Impact Statement: This study is the first to explore CSMD3, the fourth most frequently mutated gene in malignancies, as a pan-cancer biomarker for immunotherapy response. By linking CSMD3 mutations to both established (TMB, neoantigens) and emerging (immune microenvironment, gene signatures) predictors of ICI efficacy, our findings pave the way for refining patient selection and improving clinical outcomes.

Abstract Category

Clinical Research

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CAROTID ENDARTERECTOMY UNDER REGIONAL ANESTHESIA: A RETROSPECTIVE COMPARATIVE ANALYSIS OF EVERSION AND PARTIAL EVERSION TECHNIQUES

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Abstract Body

Introduction: Carotid endarterectomy (CEA) is the gold-standard treatment for symptomatic and severe asymptomatic carotid stenosis, aiming to restore cerebral perfusion and reduce the risk of stroke. Various surgical techniques exist, including conventional CEA with patching, eversion CEA, and, more recently, partial eversion CEA. Partial eversion was introduced to reduce clamp time while preserving vascular integrity. However, comparative studies evaluating its efficacy and safety remain scarce.

Objective: This retrospective study compares the outcomes of eversion and partial eversion CEA, focusing on perioperative and postoperative complications.

Methods: A retrospective analysis was conducted on 153 patients who underwent CEA between 2007 and 2023 at *Hôtel-Dieu de France*, Beirut, by a single surgeon. Patients were divided into two groups: eversion (n = 70) and partial eversion (n = 83). Collected data included demographics, intraoperative parameters (operative time, clamp duration, hemodynamic fluctuations), and postoperative complications (neurological, cardiac, and hemorrhagic events).

Results: Partial eversion resulted in a significant reduction in the number of clamps ($p = 0.006$) and the use of carotid shunting ($p = 0.04$), while also demonstrating a trend toward a shorter operative time. Postoperatively, major complications were comparable between groups, including stroke (1.2% vs. 1.4%, $p > 0.05$) and myocardial infarction (0% in both). Cerebral hyperperfusion syndrome was observed at similar rates (19.3% vs. 21.4%, $p = 0.898$), and cranial nerve injuries were slightly more frequent in the partial eversion group (9.8% vs. 6%, $p = 0.588$). No significant differences were found in hospital stay duration or infectious complications.

Conclusion: Partial eversion CEA is a safe and effective alternative to standard eversion, reducing clamp time and shunt requirement. However, it is associated with a higher incidence of intraoperative hypertension, necessitating careful hemodynamic management. Further studies with a larger sample and long-term follow-up are needed to refine these findings.

Abstract Category

Clinical Research

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A NEW BREATH: DYNAMICS OF RESPIRATORY INFECTIONS AFTER THE LIFTING OF NON-PHARMACEUTICAL INTERVENTIONS RELATED TO COVID-19

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Abstract Body

Background: The COVID-19 pandemic is the most recent global epidemic caused by the SARS-CoV2 virus. The epidemiology of circulating viruses has been changing as a result of the precautions taken during the pandemic, such as social distancing, mask wearing, isolation, and hygiene practices, that reduced the circulation of respiratory infections.However, as of May 5, 2023, the WHO Emergency Committee declared that the disease is well established and no longer meets the definition of a public health emergency, which led to the lifting of non-pharmaceutical interventions (NPIs) related to COVID-19 and therefore caused respiratory viral infections to re-emerge.

Objectives: This study aims to analyze the evolution of the epidemiology of respiratory infections following the lifting of NPIs related to COVID-19, through the application of multiplex PCR tests performed on patients who were referred to the lab by their physicians for probable respiratory infection. Then, to assess respiratory symptoms and correlate them with the presence of patient-specific risk factors.

Materials and Methods: It is a retrospective observational study conducted on 307 patients between 2021 and 2024 based on data from computerized patient records and the results of respiratory multiplex PCR BioFire® RP2.1plus panels performed at *Laboratoire Mérieux du Liban*.

Results: Since the lifting of preventive measures implemented during the COVID-19 pandemic, there has been a re-emergence of other respiratory infections.

Conclusion: After the establishment of SARS-CoV2, the viral trend has returned to its baseline state with the re-emergence of respiratory viruses according to their usual seasonal cycle patterns.

Impact Statement: This analysis highlights the impact of NPIs on the transmission of viral epidemiology and informs future strategies for managing and predicting respiratory viral infections in a post-pandemic world.

Keywords: viral epidemiology, respiratory infection, virus, multiplex PCR, viral seasonality, co-infection, COVID-19, symptoms, season, viral interference.

Abstract Category

Epidemiology & Public Health

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FACTORS ASSOCIATED WITH SURVIVAL IN PATIENTS WITH PENETRATING TRAUMA AND ACUTE CORONARY SYNDROMES IN TRAUMA CENTERS IN THE UNITED STATES

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Abstract Body

Background: Acute coronary syndrome (ACS) in penetrating trauma patients can result from direct myocardial injury, coronary artery damage, or systemic factors like hypotension and oxygen supply-demand mismatch. Despite well-documented cardiac complications in trauma, the incidence and outcomes of ACS in this context remain underexplored. This study examines factors associated with survival in patients with penetrating trauma and ACS in U.S. trauma centers.

Methods: This retrospective cohort study utilized the 2020 National Trauma Data Bank (NTDB) to examine adult trauma patients with penetrating injuries and ACS. Descriptive analysis and multivariate logistic regression were used to identify factors associated with survival to hospital discharge.

Results: A total of 1,673 patients were included. Median age was 30 years. Patients were mostly in the age group 16-64 (97.0%), male (89.4%) and Black (58.9%). Firearm injuries were most common (67.8%), and nearly all patients (99.9%) sustained internal organ injuries. Most patients underwent cardiovascular (70.2%) or respiratory (70.4%) surgeries. Survival to hospital discharge was only 31.0%. Improved survival was linked to lower Injury Severity Scores (ISS ≤ 15; OR = 0.289, 95% CI: 0.140–0.599), higher Glasgow Coma Scale (GCS) scores (mild GCS 13-15; OR = 0.025, 95% CI: 0.014–0.046), higher systolic blood pressure (SBP ≥ 90; OR = 0.401, 95% CI: 0.243– 0.661), and surgeries on the respiratory system (OR = 2.760, 95% CI: 1.411–5.399) among other systems. Female gender and firearm injuries were associated with lower survival.

Conclusion: In this study, only 31.0% of patients with penetrating trauma and ACS survived to hospital discharge. This predominantly young population was significantly affected by assault and firearm injuries.

Impact Statement: This study reveals the high mortality rate in patients with penetrating trauma and ACS. These findings highlight the urgency for violence prevention programs and timely clinical interventions to improve outcomes in this high-risk group.

Abstract Category

Clinical Research

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HYDROGEN PEROXIDE 30% VERSUS LIQUID NITROGEN CRYOTHERAPY FOR TREATING SEBORRHEIC KERATOSIS: A RANDOMIZED CLINICAL TRIAL

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Abstract Body

Background: Seborrheic keratosis (SK) is a common benign tumor in clinical dermatology caused by immature keratinocyte proliferation. Management strategies involve surgical procedures and topical interventions that include liquid nitrogen cryotherapy and hydrogen peroxide (H_2O_2). This study aims to investigate the efficacy and tolerability of cryotherapy compared to H_2O_2 in treating SK.

Methods: This prospective, interventional, single-center, open-label, active-controlled randomized clinical trial lasted 8 months. Eligible patients were visiting dermatology outpatient clinics at *Hôtel-Dieu de France* University Medical Center. Participants were randomized 1:1 to receive cryotherapy or hydrogen peroxide 30%.

Results: Overall, 49 patients participated in the study. Of these, 23 patients were treated with cryotherapy and 26 patients with 30% H_2O_2. Demographic characteristics and lesion localization were comparable between groups. SKs were most prevalent on the back (33%). Our findings show significant superiority of 30% H_2O_2 compared to cryotherapy after one session of treatment (46.2% vs 17.5% complete clearance, $p < 0.05$). Side effects were mostly observed after cryotherapy treatment, including erythema (4.3%), black crust (17.5%) and hyperpigmentation (4.3%). None of the H_2O_2-treated patients complained of pain during or after treatment, while all cryotherapy-treated patients complained of low- to moderate-intensity pain.

Conclusion: Although cryotherapy is a viable option, it has limited efficacy and causes more side effects and pain. Hydrogen peroxide is safe, well-tolerated, and efficient in the management of SK.

Abstract Category

Clinical Research

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EFFECTS OF BODY MASS INDEX, BODY FAT PERCENTAGE AND VISCERAL FAT MASS ON UTERINE ARTERY DOPPLER INDICES DURING OVARIAN STIMULATION

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Abstract Body

Obesity can disrupt uterine and endometrial function by affecting the hormones released by adipose tissue and via inflammation markers. Blood flow in the uterine artery and endometrium can be assessed using Color Doppler ultrasound. Parameters used to evaluate obesity include BMI, body fat composition, and visceral fat assessment. Our main objective was to investigate if body mass index (BMI), body fat percentage, and visceral fat mass may affect uterine artery Doppler indices during ovarian stimulation. A prospective observational study was conducted on 368 patients undergoing controlled ovarian stimulation with letrozole from January to December 2024. For each participant, BMI, body fat, visceral fat, and uterine artery Doppler parameters were measured. On day 9, Doppler parameters were assessed via ultrasound (WS80A, Samsung) on the dominant follicle side, while BMI and fat metrics were measured using the SY-1800 machine. The mean body fat percentage was 33.44 ± 6.05%, with patients categorized into low (< 22%), normal (22– 33%), and high (> 33%) body fat percentages. Significant differences in the mean time-averaged velocity were observed across the groups: 9.37 ± 2.2 cm/s in the low, 4.86 ± 0.9 cm/s in the normal, and 4.69 ± 0.8 cm/s in the high body fat percentage group ($p = 0.04$) but no statistically significant differences in uterine artery Doppler parameters were observed across BMI categories divided according to WHO ($p > 0.05$). The mean visceral fat was 4.63 ± 1.98 kg, with patients categorized into low (< 2 kg, n = 14), normal (2–4 kg, n = 153), and high (> 4 kg, n = 219) visceral fat groups. No significant differences were found in any uterine artery Doppler parameter across visceral fat categories ($p > 0.05$). Incorporating body fat percentage measurements into ovarian stimulation monitoring may help identify fat-related uterine blood flow abnormalities, allowing for tailored interventions aimed at reducing body fat percentage and potentially improving implantation success.

Abstract Category

Clinical Research

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PREDICTION OF LIVE BIRTH RATE IN INTRAUTERINE INSEMINATION (IUI) UTILIZING COMPUTER-AIDED SPERM ANALYSIS (CASA) PARAMETERS: A PILOT STUDY

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Abstract Body

Background and Objectives: Semen analysis plays an important role in the evaluation of male infertility. Recently, the Computer-Aided Sperm Analysis (CASA) system has gained widespread acceptance and adoption as a standard tool for routine semen analysis in clinical laboratories worldwide. This study aims to investigate the association between CASA-derived sperm parameters and reproductive outcomes in intrauterine insemination (IUI) cycles.

Methods: This retrospective, monocentric study analyzed data from 296 women who underwent IUI between 2019 and 2021. Semen samples from their male partners were evaluated using CASA, assessing parameters such as total sperm count, motility, and sperm velocity. CASA evaluations were conducted before and after sperm washing. Multiple linear regression analysis was employed to determine the predictive value of these parameters for pregnancy rate, number of sacs implanted, and live birth rate.

Results: Among the CASA parameters, only the after-wash average path velocity (VAP) was significantly associated with a positive pregnancy outcome ($p = 0.026$). However, none of the assessed CASA parameters were found to be significant predictors of the number of sacs implanted or the live birth rate in IUI cycles.

Conclusion: This study suggests that while certain CASA parameters, such as VAP, may be associated with pregnancy outcomes, they do not independently predict live birth rates in IUI cycles.

Impact Statement: By leveraging Computer-Aided Sperm Analysis (CASA), this research contributes to the objective assessment of sperm quality and highlights the need for further investigation into the predictive markers for IUI cycle success. These findings may help refine sperm selection criteria and optimize clinical decision-making in fertility treatments.

Abstract Category

Epidemiology & Public Health

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THE EFFECT OF THE ECONOMIC CRISIS ON VITAMIN B12 DEFICIENCY IN THE LEBANESE POPULATION: A COHORT RETROSPECTIVE STUDY

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Abstract Body

Background: The Lebanese economic crisis has significantly impacted the population's nutritional health. This study aims to assess the effect of this crisis on vitamin B12 deficiency by examining the relationship between the dollar exchange rate, the cost of dietary sources of vitamin B12, and serum vitamin B12 levels. Additionally, findings were compared across age groups and genders.

Subjects and Methods: A retrospective cohort study was conducted at Al Hadi Medical Center in Beirut, Lebanon, between February 2018 and February 2022. A total of 6,241 patients who underwent vitamin B12 serum level testing and met the inclusion criteria were included. Economic data, including dollar exchange rate fluctuations obtained from black market archives and food prices from the Lebanese Ministry of Economy and Commerce weekly reports, were analyzed. Statistical analysis was performed using SPSS software.

Results: A statistically significant correlation ($p = 0.017$) was found between the total cost of vitamin B12-rich food sources and serum vitamin B12 levels, with a positive correlation coefficient ($r = 0.309$). Gender-based differences indicated higher vitamin B12 levels in males than in females. In males, a significant correlation ($p = 0.003$) was observed between food prices and vitamin B12 levels, suggesting an increase in B12 levels with rising food costs. However, no statistically significant correlation ($p = 0.095$) was found between the dollar exchange rate and serum vitamin B12 levels. Additionally, no significant associations were observed between vitamin B12 levels and time, age, or price fluctuations within food sources.

Conclusion: This study highlights the complex relationship between economic factors, dietary affordability, and nutritional status. The findings emphasize the need for targeted public health interventions to mitigate the nutritional consequences of economic instability.

Abstract Category

Clinical Research

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EFFECT OF SMOKING ON MOTILITY TYPES OF SPERMATOZOA ASSESSED THROUGH COMPUTER-ASSISTED SEMEN ANALYSIS: A PILOT STUDY

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Abstract Body

Background: Smoking is a lifestyle factor associated with adverse health outcomes, including infertility. Its impact on male reproductive health is linked to oxidative stress, hormonal disruptions, and damage to sperm DNA. The relationship between smoking and sperm parameters assessed by computer-assisted semen analysis (CASA) is yet unexplored.

Objectives: This study aimed to assess the relationship between smoking and sperm parameters, and its effects on reproductive outcomes, in couples undergoing intrauterine insemination (IUI).

Subjects and Methods: The study employed a retrospective, descriptive correlational design, analyzing data from 77 men. Sperm parameters were assessed using CASA, a method that uses artificial intelligence, providing precise measurements. Smoking variables, including status and quantity, were collected. Statistical analysis was performed using SPSS.

Results: Findings revealed an association between smoking and certain parameters. Smokers exhibited higher straightness (STR) ($p = 0.030$), reflecting structural or functional changes in sperm induced by tobacco. No significant correlations were observed between the quantity of smoking and most parameters, notably velocity parameters, including curvilinear velocity (VCL), straight-line velocity (VSL), and average path velocity (VAP) ($p = 0.220$, $p = 0.226$, and $p = 0.613$, respectively).

Conclusion: Findings emphasize the need for lifestyle counseling in fertility care, promoting smoking cessation to enhance reproductive health. Future research should further explore these associations to highlight preventive and therapeutic approaches in the Lebanese context.

Key words: Smoking, Male Fertility, Sperm Parameters, CASA. IRB No. ETC-021-2024.

Abstract Category

Clinical Research

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PREVALENCE AND OBSTETRICAL OUTCOMES OF FIRST TRIMESTER VITAMIN D DEFICIENCY IN LEBANESE PREGNANT WOMEN: A PILOT PROSPECTIVE STUDY

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Abstract Body

Background: Vitamin D plays a role in placental function and fetal development, with insufficient levels potentially increasing maternal and neonatal risks. Although vitamin D deficiency during pregnancy has been linked to adverse obstetrical outcomes such as gestational hypertension, preeclampsia, gestational diabetes, preterm birth, and low birth weight, existing evidence remains limited. This study aims to assess the prevalence of first-trimester vitamin D deficiency among Lebanese pregnant women aged 14 to 39 years and explore its effects on pregnancy and neonatal outcomes, an area that remains underexamined.

Materials and Methods: A prospective monocentric study was conducted at Al Hadi IVF Center from June 2018 to June 2020, enrolling 591 pregnant women who met predefined inclusion criteria. Ethical approval was obtained from both Al Hayat and Mount Lebanon Hospital ethical committees, ensuring confidentiality and adherence to ethical research standards. ECLIA technique by ROCHE was used in all patients to test the vitamin D level.

Results: Vitamin D deficiency was prevalent in 73.5% of participants. A significant inverse relationship was observed between vitamin D levels and maternal BMI ($p = 0.032$) as well as maternal age ($p = 0.024$). Veiling practices were associated with lower vitamin D levels ($p = 0.049$), whereas sun exposure and exercise had a positive influence ($p = 0.021$). However, no significant correlation was found between vitamin D levels and obstetrical complications, including gestational hypertension, preeclampsia, gestational diabetes, preterm birth, low birth weight, or neonatal intensive care unit admission.

Conclusions: This study underscores a high prevalence of vitamin D deficiency among Lebanese pregnant women, with notable associations with maternal BMI, age, and veiling. Routine vitamin D screening and supplementation may be beneficial in pregnancy. While deficiency is widespread, its direct impact on obstetrical outcomes remains inconclusive, necessitating further large-scale research to assess potential long-term maternal and neonatal effects.

Abstract Category

Clinical Research

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REAL-WORLD DATA ON THE EFFICACY AND SAFETY OF PEMBROLIZUMAB IN TRIPLE-NEGATIVE BREAST CANCER

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Abstract Body

Introduction: Triple-negative breast cancer (TNBC) is an aggressive and challenging subtype of breast cancer. Pembrolizumab was approved for metastatic TNBC in 2020, based on the KEYNOTE-355 study, which showed improved progression-free survival (PFS) and overall survival (OS). In 2022, pembrolizumab was approved for non-metastatic TNBC as a neoadjuvant treatment, demonstrating a significant increase in pathological complete response (pCR) rates in the KEYNOTE-522 study. However, the response to pembrolizumab varies in clinical practice due to TNBC's molecular and clinical heterogeneity. This study explores pembrolizumab treatment for localized TNBC in Lebanon.

Method: This retrospective phase IV study, conducted from November 2023 to February 2025, analyzed pembrolizumab treatment for localized TNBC at *Hôtel-Dieu de France* Hospital in Beirut. Data were collected from pharmacy records and medical files, including demographic, disease, treatment, and side-effect information.

Results: Thirty-one patients with localized TNBC were included, with a median follow-up of 17 months. Among mastectomy patients, 65% achieved pCR (95% CI: 44%-82%), with no disease progression. The impact of age, menopausal status, lymph node involvement, PD-L1, HER2, carboplatin regimen, KI-67 percentage, and completion of eight pembrolizumab cycles on pCR was not statistically significant. Event-free survival (EFS) at 12, 24, and 36 months was 92.7%, 87.2%, and 87.2%, respectively, and OS at 12 and 24 months was 100% and 94.1%, respectively. Side effects occurred in 38.7% of patients, with immune-mediated events in 19.4%.

Conclusion: Our results suggest that pembrolizumab's neoadjuvant efficacy for localized TNBC in clinical practice is similar to that observed in clinical trials.

Abstract Category

Clinical Research

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GASTRIC THICKENING FOUND ON ABDOMINO-PELVIC CT SCAN AND THEIR ENDOSCOPIC CORRELATION

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Abstract Body

Background : Thickening of the stomach wall incidentally discovered on CT imaging may reveal malignant pathologies. This study aims to assess the presence of significant lesions in patients with these thickenings.

Materials and Methods: The study included 75 patients whose imaging showed an incidentally discovered gastric thickening and who subsequently underwent an upper gastrointestinal endoscopy. The patients were divided into three groups based on the gastroscopy.

Results: Presence of a significant lesion, presence of a benign lesion, and normal gastroscopy. A statistical correlation was sought between the presence of gastric thickening observed on CT scans, the degree and density of these thickenings, and the endoscopic findings, as well as other described clinical and demographic variables. Of the 75 patients included, 12 had a normal gastroscopy (16%). The significant lesions identified included neoplasms, ulcerated and erosive gastritis, and erosive esophagitis, accounting for 29.3% of cases (n = 22). These patients had an average gastric thickening of 16.9 mm. Patients with a benign lesion had an average gastric thickening of 16.66 mm, while those with a normal gastroscopy had an average gastric thickening of 18.7 mm. No statistically significant correlation was found between the degree of thickening and the endoscopic findings.

Conclusion : Incidentally discovered gastric thickening is, in most cases, not associated with malignant pathologies, but its radiological appearance alone does not allow for a definitive conclusion about its nature.

Impact Statement: This study highlights the clinical significance of incidentally discovered gastric wall thickening on CT imaging, demonstrating that while such findings are often benign, they cannot be reliably characterized through imaging alone. By correlating radiological features with endoscopic outcomes, our research underscores the necessity of gastroscopy for accurate diagnosis and appropriate management. These findings contribute to improved clinical decision-making, potentially reducing patient anxiety while ensuring the timely detection of significant gastric pathologies, including malignancies.

Abstract Category

Epidemiology & Public Health

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KNOWLEDGE AND ATTITUDE OF THE POPULATION IN LEBANON TOWARD WEIGHT MANAGEMENT MEDICATIONS WITH A SECONDARY FOCUS ON OZEMPIC

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Abstract Body

Background: Obesity rates in Lebanon are rising significantly, prompting increased interest in pharmacological interventions for weight management. While GLP-1 receptor agonists like semaglutide (Ozempic) have gained global attention, public awareness, and attitudes toward weight management medications (WMMs) in Lebanon remain largely unstudied. This research aims to assess the knowledge, perceptions, and utilization of WMMs, with a focus on Ozempic, among Lebanese individuals to inform future healthcare policies and public education initiatives.

Materials and Methods: A cross-sectional study was conducted between September 2024 and January 2025, with 405 participants recruited via an online questionnaire. The study received Institutional Review Board (IRB) approval from the Beirut Arab University. The survey assessed socio-demographic factors, health behaviors, knowledge of WMMs, attitudes toward their use, and familiarity with Ozempic. Descriptive and inferential statistical analyses were performed using SPSS.

Results: Knowledge of WMMs was low, with only 21% of participants recognizing their role in weight loss and 22.3% aware of semaglutide (Ozempic). Healthcare professionals demonstrated higher awareness, yet overall knowledge remained inadequate. Among respondents, 5.4% had used Ozempic, and 72.7% were unaware of its side effects. Attitudes toward WMMs were predominantly negative, influenced by factors such as professional status, self-perception of weight, and lifestyle habits. Despite low awareness, interest in Ozempic is growing, particularly among those who have struggled with conventional weight loss methods.

Conclusions: Public knowledge of WMMs in Lebanon is limited, with prevalent misconceptions and cautious attitudes. Educational initiatives targeting healthcare professionals and the public are necessary to improve awareness and informed decision-making regarding weight management options.

Impact Statement: This study is the first to evaluate public perceptions of WMMs in Lebanon, providing critical insights for public health strategies. The findings can support the development of educational campaigns, policy recommendations, and clinical guidelines to optimize the safe and effective use of weight management medications.

Abstract Category

Epidemiology & Public Health

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EFFICACY AND SAFETY OF TRANSCATHETER VERSUS SURGICAL CLOSURE OF CONGENITAL HEART DEFECTS IN PEDIATRIC PATIENTS: A SYSTEMATIC REVIEW

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Abstract Body

Background: Transcatheter closure (TC) and surgical closure (SC) are established treatments for congenital heart defects in pediatric patients. However, their comparative efficacy and safety remain debated, particularly in procedural success rates, complication profiles, hospital length of stay (LOS), and reoperation rates.

Objective: This study evaluates the relative efficacy and safety of TC versus SC, focusing on procedural success, major and minor complications, LOS, and reoperation rates.

Methods: A systematic review was conducted following PRISMA guidelines, analyzing data from PubMed, Embase, and Cochrane databases (2000-2024). Retrospective and prospective studies reporting primary outcomes were included. Unpaired t-tests and chi-squared tests assessed statistical significance for descriptive purposes.

Results: Fourteen studies with 3,102 patients were included: 2,619 TC patients (mean age 6.24 ± 3.12 years) and 483 SC patients (mean age 4.82 ± 3.62 years). TC had a slightly lower procedural success rate than SC (95.5% vs. 100%, p = 0.0015). LOS was significantly shorter in TC (1.80 ± 0.71 days vs. 6.82 ± 3.46 days, p = 0.0139). Major complications were higher in TC (127 vs. 24 cases, p = 0.041), and minor complications (210 vs. 42 cases, p = 0.037) were also significantly increased. Reoperation rates were higher in TC (29 vs. 0 cases, p = 0.026), indicating more device-related complications.

Conclusion: While SC remains the gold standard for procedural success, TC is preferred in most pediatric cases due to its minimally invasive nature and shorter LOS. However, higher complication and reoperation rates warrant careful patient selection and long-term follow-up.

Impact Statement: This study underscores the importance of balancing procedural success and safety when selecting between transcatheter and surgical closure for congenital heart defects in pediatric patients. While TC reduces hospital stay and recovery time, its increased complication rates highlight the need for ongoing risk assessment.

Abstract Category

Clinical Research

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SGLT2 INHIBITORS AND PERCUTANEOUS CORONARY INTERVENTION: DO THEY IMPROVE CLINICAL OUTCOMES?

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Abstract Body

Background: Sodium-glucose cotransporter-2 (SGLT2) inhibitors have demonstrated cardiovascular benefits in heart failure and diabetes. However, their role in percutaneous coronary intervention (PCI) remains unclear. This meta-analysis evaluates their impact on cardiovascular and renal outcomes in PCI patients.

Methods: A systematic review and meta-analysis followed PRISMA guidelines, identifying studies in PubMed, Embase, and Cochrane (2010–2024). Eligible studies included randomized controlled trials (RCTs) and observational studies reporting major adverse cardiovascular events (MACE), myocardial infarction (MI), heart failure hospitalization (HFH), all-cause mortality, or renal outcomes in PCI patients. Seven RCTs and six retrospective/prospective cohort studies met inclusion criteria. Risk ratios (RR) and 95% confidence intervals (CI) were pooled using a random-effects model, with heterogeneity assessed via the I^2 statistic. Statistical significance was set at $p < 0.05$. Risk of bias was also evaluated using the Cochrane Risk of Bias tool for randomized controlled trials and the Newcastle-Ottawa Scale for observational studies.

Results: Thirteen studies (n = 3,102 PCI patients) were analyzed. SGLT2 inhibitors significantly reduced HFH (RR 0.69, 95% CI 0.55–0.86, $p < 0.001$) and all-cause mortality (RR 0.78, 95% CI 0.65–0.92, $p = 0.003$). Periprocedural MI (RR 0.89, 95% CI 0.79–0.99, $p = 0.045$) and target vessel revascularization (RR 0.88, 95% CI 0.76–0.98, $p = 0.032$) were also significantly lower in SGLT2 users. Renal benefits were noted, with a slower decline in eGFR ($p = 0.004$).

Conclusion: SGLT2 inhibitors may provide cardioprotective and renoprotective benefits in PCI patients, reducing heart failure hospitalizations, mortality, MI, and revascularization rates. Further large-scale RCTs are required to confirm these findings and refine patient selection criteria.

Impact Statement: This study highlights the emerging role of SGLT2 inhibitors in PCI, suggesting their potential beyond diabetes and heart failure. Findings support future research integrating SGLT2 inhibitors into PCI protocols for improved cardiovascular and renal outcomes.

Abstract Category

Clinical Research

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UNRAVELING GUT MICROBIAL IMBALANCES IN ULCERATIVE COLITIS: METAGENOMIC AND CULTUROMIC INSIGHTS FROM LEBANON

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Abstract Body

Ulcerative colitis (UC) is a chronic inflammatory disease of the colon and rectum, influenced by genetic, environmental, and immune factors. Gut microbiome dysbiosis plays a key role in UC progression, with regional dietary and genetic diversity shaping microbial composition. This study investigates gut microbial imbalances in Lebanese UC patients using metagenomics and culturomics to identify potential therapeutic targets and inform personalized bacteriotherapy strategies. Fecal samples were collected from UC patients and stored at -80°C before processing. 16S rRNA sequencing (Oxford Nanopore) and culturomics were used to analyze microbial diversity and isolate key taxa. Workflow-specific bioinformatics tools were applied to assess microbial composition at the genus and phylum levels. Comparative analyses were performed to identify region-specific microbial shifts and correlations with UC severity. Microbiome analysis revealed distinct variations across UC samples. At the genus level, Faecalibacterium and Roseburia exhibited fluctuations, suggesting potential implications for inflammation. At the phylum level, Bacillota was consistently overrepresented, while Actinomycetota and Bacteroidota showed a divergent landscape in UC patients. These findings highlight a diverse microbial composition that may play a role in UC pathophysiology. This study identifies microbial imbalances in UC patients, highlighting the reduced presence of beneficial taxa and the enrichment of pro-inflammatory species. These results contribute to understanding regional UC pathology and microbial shifts. The identification and characterization of key microbial taxa in Lebanese UC patients pave the way for future bacteriotherapy and microbiome-based interventions. These findings underscore the importance of considering regional differences in microbiota research to develop personalized therapeutic strategies for UC management.

Abstract Category

Basic Science & Translational

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FACTORS ASSOCIATED WITH ACUTE CORONARY SYNDROME IN TRAUMA: A RETROSPECTIVE STUDY ACROSS TRAUMA CENTERS IN THE UNITED STATES

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Abstract Body

Background: Trauma is an uncommon cause of acute coronary syndrome (ACS) that can often be masked by concurrent distracting injuries. When left undiagnosed or untreated, ACS carries a high mortality rate. The contributing and interfering factors linking trauma to ACS remain unclear in the literature. This study aims to identify factors associated with the development of ACS in adult patients presenting with trauma.

Materials and Methods: This observational retrospective study used the 2020 dataset from the National Trauma Data Bank (NTDB). Univariate and bivariate analyses were conducted to compare patients diagnosed with ACS to those without. Firth penalized logistic regression analysis was then performed to identify factors independently associated with ACS in trauma patients.

Results: A total of 687,278 patients were included in the final analysis out of whom 4,101 had a diagnosis of ACS. The median age of patients was 55 years (IQR = [33–72]) and most were male (60.8%). Factors significantly associated with ACS included: internal organ injury (OR = 25.937), injuries to the torso (OR = 24.771), blood transfusions (OR = 2.146), cardiac arrest with CPR (OR = 1.649), operations on the cardiovascular system (OR = 1.702), operations on the respiratory system (OR = 1.457), operations on the musculoskeletal system (OR = 1.129), SBP of < 90 mmHg (OR = 1.277), injury severity score of ≥ 16 (OR = 1.413), GCS of ≤ 8 (OR = 1.313), and penetrating trauma (OR = 1.212).

Conclusion: This study identified multiple factors significantly associated with ACS in trauma patients. This condition was unexpectedly more frequently observed in younger individuals without pre-existing risk factors.

Impact Statement: These findings can help guide and implement anticipatory evidence-based plans designed to improve survival and outcomes in organized trauma systems.

Abstract Category

Epidemiology & Public Health

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TRANSLATION, CROSS-CULTURAL ADAPTATION, AND VALIDATION OF AN ARABIC VERSION OF THE ASA'S SURVEY RECOMMENDATIONS FOR ANESTHESIA PATIENTS' SATISFACTION

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Abstract Body

Background: The rapid advancement in assessing the quality of medical services led to the creation of various tools to measure patient satisfaction. To evaluate experiences with anesthesia services, the American Society of Anesthesiologists (ASA) developed survey-based recommendations for data collection. However, a validated and reliable Arabic version had not been developed. This study aims to translate, adapt, and validate an Arabic version of the ASA anesthesia patient satisfaction scale.

Materials and Methods: The translation and cross-cultural adaptation of the scale involved five stages: Initial translation, synthesis of the translations, revision of the translations by two anesthesiologists, review by an expert committee, and the testing of the prefinal version. Arabic native speakers aged 18 or above and undergoing surgery under any anesthesia type were recruited. Eligible patients completed the 15-item Anesthesia Services scale and the 13-item Arabic Modified Iowa Satisfaction in Anesthesia Scale (ISAS) when fully awake post-surgery. Following the Scientific Advisory Committee (SAC) guidelines, the questionnaire was assessed for validity, reliability, and consistency, with test-retest reliability evaluated through a follow-up completion after 48 hours.

Results: A total of 150 patients were enrolled, with 78 (52%) being female. The mean age was 52.1 years (SD = 15.60). The Anesthesia Services (based on ASA recommendations) scale demonstrated high internal consistency (Cronbach's alpha = 0.904) and test-retest reliability (Intraclass coefficient = 0.77). Significant correlations were found between the scores of the Anesthesia Services Questionnaire and the modified-IOWA patient satisfaction scale ($r=0.29$, $P<0.001$), suggesting good concurrent validity.

Conclusion: The Arabic version of the Anesthesia Services scale is valid and reliable for assessing patients' satisfaction with anesthesia services. 5.

Impact Statement: This study enables anesthesia practitioners to gain deeper insights into patients' experiences and improve quality of care in Arabic-speaking populations.

Abstract Category

Basic Science & Translational

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PREVALENCE OF CARDIOVASCULAR DISEASES IN STAGES III – IV ENDOMETRIOSIS PATIENTS IN LEBANON: A FIRST LEBANESE CROSS-SECTIONAL STUDY

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Abstract Body

Background and Objectives: Endometriosis and cardiovascular diseases (CVD) were shown to share similar genetic backgrounds. Our objective was to investigate whether stage III and IV endometriosis are possible risk factors for familial incidence of CVD.

Subjects and Methods: A cross-sectional study was performed including women with stage III or IV endometriosis from a gynecologist's clinic. Controls were also enrolled from the same clinic. Data were collected through an online questionnaire. Data were analyzed using SPSS software.

Results: The study included 209 women, 39.7% with Stages III - IV endometriosis and 60.3% without endometriosis. A history of cardiac catheterization in a first-degree relative of patients with endometriosis was significantly higher (OR = 1.86) than in patients without endometriosis. In the same subject, cardiac catheterization in a first-degree relative was found to be a possible risk factor for familial endometriosis (OR = 5.71), as well as peripheral artery disease (OR = 4.37), pulmonary embolism (OR = 3.25) and diabetes. All cited confidence intervals do not contain 1.

Conclusion: The findings of this study suggest that women with stage III and IV endometriosis may have an increased familial risk for cardiovascular diseases. Furthermore, a family history of peripheral artery disease, pulmonary embolism, and diabetes may also be associated with an elevated risk of familial endometriosis. These results highlight the potential link between endometriosis and cardiovascular diseases, warranting further investigation into their shared genetic and environmental factors.

Keywords: cardiovascular disease, endometriosis, family history.

Abstract Category

Clinical Research

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EPIDEMIOLOGY AND ANTIBIOTIC SUSCEPTIBILITY OF STAPHYLOCOCCUS AUREUS IN LEBANON FROM 2017 TO 2023

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Abstract Body

Introduction: Antibiotic susceptibility of Staphylococcus aureus, particularly methicillin-resistant S. aureus (MRSA), is critical for guiding treatment strategies due to its significant public health threat. This study investigates the epidemiology and antibiotic resistance patterns of S. aureus in Lebanon from 2017 to 2023, with a focus on MRSA.

Methods: A retrospective analysis of S. aureus susceptibility data from 13 hospital laboratories across Lebanon was conducted from 2017 to 2023.

Results: From 2017 to 2023, antibiotic susceptibility data from 6,959 non-duplicate Staphylococcus aureus isolates were collected, with 60.2% originating from inpatients and 39.8% from outpatients. Of all S. aureus isolates, 36.9% were methicillin-resistant (MRSA), 25.3% were erythromycin-resistant, 15.3% were clindamycin-resistant, 15.1% were tetracycline-resistant, and 41% were quinolone-resistant. Resistance rates for these antibiotics were generally comparable between inpatients and outpatients, except for methicillin resistance, which was significantly higher among inpatients compared to outpatients (38.2% vs. 34.8%, p=0.003). Among the total MRSA cases, 23.1% were co-resistant to clindamycin, 36.9% to erythromycin, 26.1% to tetracycline, and 56.6% to quinolones. In contrast, methicillin-susceptible Staphylococcus aureus (MSSA) cases showed lower resistance rates: 10.6% to clindamycin, 18.3% to erythromycin, 8.3% to tetracycline, and 31.3% to quinolones. Methicillin resistance significantly increased over the study period, ranging from 34% in 2017 to 43% in 2023 (R^2=0.694, p=0.02).

Conclusion: MRSA prevalence in Lebanon is notable, comprising 36.9% of S. aureus cases, with higher methicillin resistance in inpatients. The increasing methicillin resistance trend underscores the ongoing challenge posed by MRSA, highlighting the importance of sustained surveillance and targeted antibiotic stewardship efforts to mitigate its impact.

Abstract Category

Clinical Research

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HESPERIDIN EXERTS CARDIOPROTECTIVE EFFECTS BY INHIBITING CARDIOMYOCYTE HYPERTROPHY AND FIBROBLAST PROLIFERATION

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Abstract Body

Background: Cardiac remodeling is a response to acute or chronic cardiac stress and a key feature of many cardiovascular diseases. While conventional treatments have shown some efficacy in improving myocardial remodeling, there is a growing need for novel therapies, such as emerging antioxidant compounds. Hesperidin (HESP), a citrus-derived flavonoid, has shown some beneficial cardiovascular effects, particularly through its antioxidant properties. Since the effects of HESP on cardiac remodeling have not been investigated, this study aims to assess its impact on both cardiomyocytes and cardiac fibroblasts.

Materials and Methods: The study was approved by the USJ Ethics Committee (FM451). Cardiac fibrosis was triggered by L-Ng-Nitro arginine methyl ester (L-NAME) – induced hypertension in young male adult rats. HESP was orally administered at a dose of 50 mg/kg/day for two months. Animals were divided into four groups: Sham, Sham HESP, L-NAME, L-NAME HESP. Blood pressure and cardiac functions were evaluated, followed by histological, biochemical and molecular analyses on cardiac tissue. Additionally, HESP (1.5 microM) effects were tested on cultured rat ventricular fibroblasts. Data analysis was done using one-way ANOVA/Kruskal-Wallis with post hoc tests.

Results: HESP supplementation lowered systolic blood pressure and improved cardiac ejection fraction and fractional shortening ($p<0.05$) while inhibiting cardiomyocyte hypertrophy. In addition, HESP reduced PDGFRa+ ($p<0.01$) and TCF21+ ($p<0.0001$) cardiac fibroblasts proliferation. Molecular screening using antibody arrays showed that CAMK2, ERK1/2, P38, and AKT are key signaling pathways in HESP's effects. Moreover, in vitro, HESP targeted AKT activation ($p<0.05$) without affecting cardiac ventricular fibroblasts proliferation. Nonetheless, collagen turnover was affected toward an increase of its soluble form ($p<0.05$).

Conclusion: HESP demonstrated cardioprotective effects by acting on both cardiomyocyte and fibroblasts, and modulating key signaling.

Impact Statement: Hesperidin could be proposed as a promising natural compound in the therapeutic management of cardiovascular diseases.

Abstract Category

Basic Science & Translational

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EFFICACY AND SAFETY OF ORAL SPIRONOLACTONE FOR WOMEN WITH ACNE VULGARIS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED PLACEBO-CONTROLLED TRIALS

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Abstract Body

Background: Adult acne vulgaris is a chronic inflammatory skin condition affecting mostly females. Initial management includes topical and oral medications, but important limitations include ineffectiveness, non-adherence, and adverse effects. Spironolactone has shown good results in off-label acne management. We aim to conduct a systematic review and meta-analysis exploring the safety and efficacy of oral spironolactone for females with acne.

Materials and Methods: We searched PubMed, Embase, and Cochrane for randomized controlled trials (RCTs) comparing oral spironolactone in women with acne to placebo. The primary endpoint was the objective assessment of acne improvement. Secondary endpoints included subjective assessment and adverse events. Statistical analysis was performed using Review Manager 5.4. Heterogeneity was assessed with I^2 statistics.

Results: We included 563 patients from 5 RCTs, of which 251 (42.9%) received spironolactone. Objective assessment of acne improvement (OR 6.59; 95% 3.50-12.43; $p < 0.00001$; $I^2 = 0\%$) was six-fold higher in the spironolactone group as compared with placebo. Subjective assessment showed no difference between the two groups (OR 5.22; 95% 0.62-44.24; $p < 0.13$; $I^2 = 85\%$). Menstrual irregularities (OR 1.09; 95% 0.37-3.25; $p = 0.88$; $I^2 = 33\%$) and breast enlargement (OR 1.37; 95% 0.79-2.38; $p = 0.26$; $I^2 = 0\%$) were non-significant in patients taking spironolactone. Trial sequential analysis confirmed that the required sample size was reached, favoring spironolactone over placebo.

Conclusion: Our study suggests that oral spironolactone improves acne in female patients compared to placebo without increasing risks and thus should be elevated from “off-label” use to an officially recommended standard of care.

Impact Statement: Our meta-analysis supports oral spironolactone as an effective and safe treatment for female acne, warranting its elevation from off-label use to standard care. PROSPERO registration CRD42024626984.

Abstract Category

Clinical Research

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KNOWLEDGE, ATTITUDE AND PERCEPTION TO FERTILITY PRESERVATION AMONG MEDICAL STUDENTS IN LEBANON

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Abstract Body

Background: Infertility is a medical condition that causes detrimental effects on patient and partner well-being. According to some studies, the rate of infertility among medical students and doctors is twice that of the general population.

Objectives: This study assessed the knowledge, attitudes, and perceptions of fertility preservation among medical students in Lebanon, while identifying factors affecting their fertility decisions. It examined socio-demographic factors, as well as students' susceptibility to infertility risks. Reasons for refusing Assisted Reproductive Technologies were also explored.

Subjects and Methods: The study was based on a cross-sectional design. The population was formed of 420 medical students enrolled in 7 Lebanese medical faculties. Data were collected using an anonymous questionnaire distributed through Google Forms, using validated tests. Statistical analysis was done using SPSS. All ethical considerations were respected.

Results: Around 66% of students had a positive attitude toward fertility preservation, with a fertility preservation knowledge score of 9.45/26. Students supported fertility preservation when related to health issues but were reluctant to use procedures involving donor eggs or sperm. A preference for biological parenthood over adoption was observed. Factors influencing willingness to delay childbearing for career or financial reasons included relationship status, university affiliation, positive attitude scores toward fertility preservation, and susceptibility to fertility risks. Additionally, students with higher positive attitude scores toward fertility preservation were more likely to refuse assisted reproduction when it involved fertilizing multiple eggs to avoid embryo freezing. Students from universities other than the Lebanese University showed significantly higher positive attitudes toward fertility preservation, and those who prioritized future fertility or had higher susceptibility to fertility risks had more positive attitudes toward elective freezing.

Conclusion: Medical students in Lebanon exhibit varying attitudes toward fertility preservation. University affiliation, susceptibility to fertility risks, and personal plans for future fertility significantly influence their perspectives.

Abstract Category

Epidemiology & Public Health

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SYSTEMATIC PROPHYLACTIC ANTICOAGULATION PRESCRIPTION IN HOSPITALIZED PATIENTS: A CROSS-SECTIONAL STUDY AT *HÔTEL-DIEU DE FRANCE*

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Abstract Body

Introduction: Venous thromboembolism (VTE), comprising deep vein thrombosis (DVT) and pulmonary embolism (PE), is a leading cause of preventable in-hospital mortality. Despite strong evidence demonstrating the benefits of thromboprophylaxis, many at-risk patients still do not receive anticoagulation. The Caprini score — a validated risk assessment model — has been widely recommended to guide prophylaxis in both surgical and medical settings.

Methods: We conducted a cross-sectional study of 163 adult inpatients at *Hôtel-Dieu de France* in Beirut, Lebanon, on two predetermined dates. Patients in medical and surgical wards were included, except those managed solely through day-hospital units or emergency services. For each patient, the Caprini score was calculated to stratify VTE risk. We recorded prophylactic anticoagulation status, determined whether there were any documented contraindications, and compared actual practice with guideline-based recommendations.

Results: Of the 163 patients included, 105 (64.4%) were not receiving any form of anticoagulation. Among these non-anticoagulated individuals, 75 patients (46% of the total sample) had Caprini scores indicating that prophylaxis was indeed warranted. This suggests a significant gap between recommended and actual practice. Multiple factors — such as lack of standardized risk assessment, fear of bleeding, and logistical challenges — contributed to this underutilization of prophylaxis.

Conclusion: Systematic application of the Caprini score in electronic health records, paired with increased education about VTE risk and prophylaxis, could substantially improve adherence to evidence-based guidelines. Such interventions may reduce the burden of preventable VTE, reduce costs, and improve patient outcomes.

Abstract Category

Epidemiology & Public Health

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WHICH PELVIC TILT THRESHOLD DISCRIMINATES BETTER ON THE CLINICAL AND FUNCTIONAL LEVELS?

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Abstract Body

Introduction: Pelvic retroversion, evaluated on X-rays with pelvic tilt (PT), is a key compensation mechanism in spinal deformity. The PT cutoff defining retroversion is debated, with some preferring a constant value, while others suggest a dependency on pelvic incidence (PI). While the importance of functional evaluation in ASD was recently highlighted, defining a PT threshold differentiating ASD patients clinically and functionally would be valuable for surgeons.

Methods: ASD patients and controls of similar ethnicity were enrolled. Patients completed HRQOL questionnaires and underwent biplanar X-rays, 3D spine reconstructions, and 3D gait analysis to calculate gait deviation index (GDI; /100, decreasing with disability). Four methods classified patients by PT: 1: Upper control limit (UCL) from regression analysis between PT and PI in controls (PT = 0.33*PI+6); 2: Vialle equation (PT = 0.37*PI-7); 3: LeHuec equation (PT = 0.44*PI-11); 4: Schwab-ISSG 25° limit. ASD patients were classified as HighPT or NormPT, and distributions, HRQOL scores, and GDI were compared.

Results: Among 150 ASD patients and 77 controls, ISSG (HighPT: N = 62,32±6°; NormPT: N = 88,14±6°) and UCL (N = 61,32±6°; N = 89,14±7°) differed from Vialle (N = 123,24±10°; N = 27,8±6°) and LeHuec (N = 127,23±10°; N = 23,8±7°, $p < 0.001$). ODI was higher in HighPT vs. NormPT for ISSG (45±18 vs 31±17, p = 0.003), UCL (44±20 vs 32±16, p = 0.02), and Vialle (39±18 vs 27±19, p = 0.04), but not LeHuec (p = 0.1). GDI was lower in HighPT vs. NormPT for ISSG (82±12 vs 91±12, $p < 0.001$) and UCL (83±12 vs 90±13, p = 0.02), but not Vialle or LeHuec ($p > 0.05$).

Conclusions: Distributions in UCL and ISSG groups were similar, while Vialle and LeHuec categorized most ASD patients as retroverted, likely because they were based on mean PT-PI models, while UCL was based on its upper limit. UCL and ISSG also better discriminated patients clinically and functionally. We recommend using the UCL from similar ethnicity controls to define PT thresholds or, if unavailable, the 25° cutoff.

Abstract Category

Basic Science & Translational

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MEASUREMENT OF THE CEREBROPLACENTAL RATIO IN THE THIRD TRIMESTER OF PREGNANCY: ESTABLISHING NORMAL VALUES IN THE LEBANESE POPULATION

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Abstract Body

Background: The cerebroplacental ratio (CPR), defined as the ratio between the pulsatility index of the middle cerebral artery (PI-MCA) and the fetal umbilical artery (PI-UA), is a key indicator of fetal well-being. Despite its importance, reference standards specific to the Lebanese population remain to be established.

Methods: This was a prospective observational study conducted on 85 pregnant women who underwent Doppler ultrasounds between 27 and 40 weeks of gestation. Only singleton pregnancies with normal fetal anatomy and no maternal-fetal complications were included. A total of 114 measurements of CPR, PI-MCA, and PI-UA were collected and analyzed.

Results: Reference curves for CPR, PI-MCA, and PI-UA were established. The mean CPR in the study was 1.84 ± 0.50, with values ranging from 0.78 to 3.32. PI-UA showed a progressive decrease with gestational age, while PI-MCA exhibited a downward trend with fluctuations around 30 weeks of gestation. No significant differences in CPR were observed based on the presence of a nuchal cord, nor was there any correlation with maternal parameters.

Conclusion: This study establishes, for the first time, reference curves for CPR in the Lebanese population, improving prenatal assessment. Multicentric studies remain necessary to refine these standards.

Impact Statement: This study provides crucial population-specific reference data for the CPR in Lebanese pregnancies, contributing to more accurate fetal well-being assessments and enhancing clinical decision-making in prenatal care.

Abstract Category

Clinical Research

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CLINICAL SPECTRUM OF TOXOCARIASIS: A RETROSPECTIVE STUDY FROM A TERTIARY CARE CENTER IN LEBANON

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Abstract Body

Background: Toxocariasis is a prevalent zoonotic disease worldwide caused primarily by Toxocara canis and Toxocara cati. While substantial research has been done in other parts of the world, studies focusing on the clinical manifestations, and laboratory findings of toxocariasis in the Middle East and North Africa (MENA) region are limited, underscoring the need for further investigations. This gap in research is particularly concerning given the potential risk posed by this infection in the region, where environmental factors, exposure to infected animals, and inadequate public health infrastructure may contribute to higher rates of infection. The aim of this study is to describe the spectrum of toxocariasis observed at a tertiary care center in Lebanon and review the geographic distribution of infected individuals and their demographics.

Methods: The medical records of 225 patients who tested positive for Toxocara IgG via ELISA between 2002 and 2022 at the American University of Beirut Medical Center (AUBMC) were reviewed.

Results: 141/225 patients had confirmed positive Toxocara-specific IgG by Western blot. These patients were mostly middle-aged, with a mean age of 46 years and predominantly males. Most were Lebanese (95.3%), residing in Mount Lebanon or Beirut governorates. Patients were mainly symptomatic (78.5%), and the most common presenting symptoms were neurological complaints. For those with Toxocara myelitis (23 patients), spine magnetic resonance imaging (MRI) findings showed focal lesions (54.5%) mostly at the thoracic vertebrae.

Conclusions: Given the challenges associated with diagnosing this disease, further studies are essential to enhance our understanding of toxocariasis in the region.

Impact Statement: To our knowledge, only one study (excluding case reports) has examined toxocariasis in Lebanon, and it reported on seroprevalence. This manuscript offers novel insights into the clinical spectrum, demographics, and geographical distribution of Toxocara in Lebanon.

Abstract Category

Clinical Research

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PREDICTION OF KINEMATIC PARAMETERS BASED ON RADIOGRAPHS AND QUALITY OF LIFE SCORES USING ARTIFICIAL INTELLIGENCE

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Abstract Body

Introduction: Adult spinal deformity (ASD) is generally assessed using quality of life (QOL) questionnaires and static radiographs. Recently, 3D gait analysis (3DGA) is being used for the functional kinematic assessment of ASD and has shown to be superior to radiographic analysis in predicting QOL. However, 3DGA is time-consuming, expensive, and tiring for the patient and the operator. The aim of this study was to develop an artificial intelligence (AI) model based on radiographs and QOL scores that could predict gait parameters and be used instead of 3DGA.

Methods: 173 ASD patients and 57 controls underwent low-dose full-body biplanar radiographs with 3D skeletal reconstruction, full-body 3DGA during walking, and completed QOL questionnaires: SF-36 with physical and mental components (PCS & MCS), ODI, BDI and VAS for pain. A random forest AI model was used to predict kinematic parameters based on radiographs and QOL scores. Prediction accuracy and root mean square error (RMSE) were evaluated using cross-validation.

Results: The model had a median accuracy of 87% (thorax flexion/extension) with a maximum of 100% (pelvic version ROM) and a minimum of 66% (neck flexion/extension). The maximum error recorded was 5.8° (internal/external hip rotation ROM) and the minimum was 0.04 s (time of unipodal and bipodal support).

Conclusions: In this study, the AI model was able to predict kinematic parameters from radiographic parameters and QOL scores. The best results were recorded at the levels most representative of gait patterns (thorax, pelvis, and head), while the poorest results were recorded at the levels most prone to error (hip rotation). The proposed model allows surgeons to short-circuit the complexity of the 3DGA process and acquire an accurate prediction of ASD patients' kinematic patterns for a complete clinical evaluation.

Impact Statement: Develop an AI model to accurately short-circuit predict kinematic parameters and be used in clinical settings.

Abstract Category

Basic Science & Translational

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KNOWLEDGE, ATTITUDE, PRACTICE, AND BARRIERS TOWARD CERVICAL CANCER SCREENING AMONG LEBANESE WOMEN.

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LAU, Lebanon

Abstract Body

The aim of this study is to assess Lebanese women's knowledge, attitude, practice, and barriers toward cervical cancer screening. A cross-sectional study was conducted among Lebanese women aged 21-65 with no history of cervical cancer. The data were obtained through a self-administered anonymous questionnaire distributed over social platforms. The Lebanese American University's Institutional Review Board gave ethical approval for the study, and informed consent was obtained from participants. Data were analyzed with SPSS using frequencies, means, and chi-square tests. Moreover, multivariable analysis was done using several logistic regression models to evaluate the association of knowledge, attitude, and practice.

A total of 801 participants were included in this study, and 46.3% belonged to the age group 21-29 years. Only 44.9% had adequate knowledge, which was less likely to be present with older age. 62.7% had a favorable attitude toward cervical cancer screening. A significant portion of women (68.1%) had never undergone any cervical cancer screening test and it is apparent that as age increases, the likelihood of practicing screening increases. Participants who were immunized with HPV vaccine were found to have a better level of knowledge about cervical cancer screening compared to those who were non-immunized (OR = 1.42; CI: [1.01-2.01]; p-value = 0.046). Moreover, those with adequate knowledge had a better attitude score (34.28+ 9.30) compared to those with inadequate knowledge (31.24 ± 7.60; p-value < 0.001). Additionally, participants who screened for sexually transmitted diseases had 6-fold higher odds of cervical cancer screening (OR = 6.01; CI [3.31-10.92]; p-value < 0.001) compared to females who had never undergone screening for sexually transmitted diseases. Finally, the most common screening barriers Lebanese women reported were the lack of symptoms, lack of awareness, and fear of vaginal exam.

The level of knowledge and practice regarding cervical cancer screening was quite low among Lebanese women, though the majority held a positive attitude toward it.

Abstract Category

Epidemiology & Public Health

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PROGNOSTIC AND CLINICAL IMPLICATIONS OF P53, KRAS MUTATIONS, AND MMR STATUS IN CLEAR CELL OVARIAN CARCINOMA IN A LEBANESE SAMPLE

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Abstract Body

Clear cell carcinoma (CCC) is a rare and aggressive form of gynecological cancer, often associated with high chemoresistance. Specific mutations may influence its prognosis and management. This study aims to assess the role of epithelial mutations as prognostic factors and to identify biomarkers for targeted screening.

Materials and Methods: A retrospective study was conducted on 15 patients with CCC who were followed at *Hôtel-Dieu de France* between 2010 and 2024. Clinical, gynecological, and oncological data were analyzed. A pathological analysis of the tumors was performed to detect p53 mutations and the expression of MMR proteins (MLH1, MSH2, MSH6, PMS2), along with KRAS sequencing.

Results: The mean age was 51.4 years, with 66% of patients diagnosed with endometriosis. The p53 mutation was absent in 86% of cases, and MMR protein expression was preserved in 86%. One patient exhibited a KRAS-G12D mutation associated with loss of MSH2 and MSH6 expression. The stage distribution was as follows: 46.7% stage I, 6.7% stage II, 33.3% stage III, and 13.3% stage IV. Standard treatment was administered to 14 patients, with a recurrence rate of 20%. The median progression-free survival was 3 years and 10 months, and 66% of the patients were still alive at the end of the study.

Conclusion: Our findings highlight the role of p53, KRAS, and MMR mutations in CCC and their potential impact on prognosis. The p53 mutation is associated with an increased risk of recurrence, while MMR deficiency could open therapeutic perspectives via PD-L1. The identification of a KRAS-G12D mutation underscores its relevance as a potential therapeutic target. Integrating these biomarkers could enhance the diagnostic and therapeutic strategy for CCC, warranting further multicentric studies.

Keywords: Clear cell ovarian cancer, epithelial mutations, KRAS, mismatch repair system (MMR), MSI, p53, KRAS-G12D, targeted therapy.

Abstract Category

Clinical Research

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A SIMPLE AND CLINICALLY RELEVANT GAIT SCORE TO EVALUATE FUNCTIONAL IMPAIRMENT IN ASD

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Abstract Body

ASD patients present functional impairment during gait due to their spinal deformity. The interpretation of 3D gait analysis (3DGA) remains challenging due to the extensive number of calculated parameters. The aim of this study was to simplify functional evaluation in ASD by developing a clinically relevant gait score based on a reduced set of kinematic parameters. 175 ASD patients and 40 controls underwent bi-planar X-rays and completed the ODI questionnaire. They all underwent 3DGA to measure kinematics of the head (odontoid to hip axis angle with the vertical: ODHA), thorax, spinal segments, pelvis, and lower limbs during walking, along with step length. The most 3 relevant kinematic parameters to describe ASD gait were identified using a principal component analysis. Then, an overall gait functional score (GFS) was attributed to each patient based on the deviation of these parameters from normative values. Correlations between GFS, radiographic parameters, and ODI scores were analyzed. Kinematic ODHA (k-ODHA), pelvic tilt (k-PT, normalized to PI), and step length (normalized to height) were the most relevant gait parameters. A GFS = 0 (normal k-ODHA, normal k-PT, N = 55) was attributed to dynamically aligned patients; GFS = 1 (normal k-ODHA, retroverted k-PT, N = 21) to dynamically aligned patients using pelvic compensation; GFS = 2 (forward k-ODHA, retroverted k-PT, N=33) to malaligned patients despite pelvic compensation; and GFS = 3 (forward k-ODHA, normal k-PT, N=66) to uncompensated malaligned patients (Fig. 1). A modifier was added to the GFS when a patient's step length was reduced. Significant correlations were found between GFS, radiographic parameters (SVA = 0.52, PI-LL = 0.38), and ODI scores (total score = 0.32; walking = 0.30; all $p < 0.05$). The GFS is a simple and clinically relevant score to classify ASD patients depending on the severity of functional impairment. As patients walk while projecting their head forward, losing the ability to compensate by retroverting their pelvis, the GFS increases, suggesting more severe dynamic malalignment with increased disability in daily life activities.

Abstract Category

Clinical Research

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IMPACT OF PHYSICIAN, FAMILY AND SOCIETY ON THE CHOICE OF CESAREAN SECTION DELIVERY MODE AMONG LEBANESE FEMALES

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Abstract Body

Background: The increasing rate of cesarean section (C-section) deliveries has become a global concern, prompting intervention from governments and healthcare organizations, including the World Health Organization (WHO), which is actively working to reduce the number of unnecessary C-sections worldwide. This study examines the role of physicians, family, and societal factors in C-section decision-making among Lebanese women.

Methods: This cross-sectional study included 367 Lebanese women recruited between March and September 2024. The Attitude Toward Birth Selection Method was used to determine factors influencing birth method preference. The scale evaluates eight factors: beliefs and attitudes, sexual and physical attitudes, fear of childbirth, preference for convenience, health and support, sociocultural norms, confidence in the birth practitioners, personal and practical choices, and sources of motivation.

Results: Findings suggest that sources of motivation and confidence in birth practitioners were associated with a higher preference for C-section delivery. In contrast, beliefs and attitudes and personal and practical choices were more strongly associated with a preference for vaginal delivery.

Conclusion: This study highlights the significant role that physicians, family, and societal influences play in shaping C-section decision-making. These findings serve as a first step toward developing awareness campaigns aimed at reducing unnecessary C-sections and supporting women to make informed and health-conscious decisions about childbirth.

Impact Statement: Lebanon's C-section rate is notably high, with a 2015 report estimating 44% of deliveries being cesarean, surpassing the WHO's recommended 10–15%. Many of these procedures reportedly lack clear medical justification. This study aimed to explore how physicians, healthcare workers, families, and societal influences shape Lebanese women's birth choices using an attitude assessment scale. The study encourages physicians to offer better counseling, aligning with WHO guidelines. It also urges the government, Ministry of Public Health, and medical groups to provide educational programs and guidance to improve delivery decision-making and reduce unnecessary C-sections.

Abstract Category

Epidemiology & Public Health

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NUTRITIONAL STATUS: THE SILENT RISK OF FALL IN HEMODIALYSIS PATIENTS

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Abstract Body

Background: Hemodialysis patients are at an increased risk of falls. Malnutrition and protein-energy wasting are prevalent in hemodialysis and can exacerbate the existing fall risk factors. This study aims to assess the complex interplay between nutritional status and fall risk in this population. It will also investigate other potential risk factors for falls.

Materials and Method: This is a prospective, single-center study including patients on dialysis for at least 3 months, aged over 18. A total of 68 patients were followed up for a period of 2 years and were tracked for the occurrence of any fall. The nutritional status was assessed by the clinical dieticians of the center. Protein–energy wasting (PEW) was evaluated with anthropometric measurements. Functional muscle assessment included handgrip strength, supported by a Nutrition-Focused Physical Exam (NFPE) to evaluate the muscle-loss severity. Malnutrition was diagnosed using the Global Leadership Initiative on Malnutrition (GLIM) criteria. Statistical analysis was performed using IBM SPSS Statistics version 22.0.

Results: 38.2% of the patients experienced a fall. In the bivariate analysis, the risk of falls was significantly associated with age ($p = 0.003$), the age at onset of dialysis ($p = 0.009$), serum albumin ($p < 0.001$), serum potassium ($p = 0.001$), muscle-loss severity (NFPE) ($p = 0.057$), mode of transportation ($p = 0.019$), ambulation status ($p = 0.001$), and the presence of orthostatic hypotension ($p = 0.008$). Logistic regression analysis showed that muscle-loss severity (NFPE) ($p = 0.020$), albumin ($p = 0.015$), potassium ($p = 0.53$), ambulation status ($p = 0.001$), and orthostatic hypotension ($p = 0.035$) were significantly associated with an increased risk for falls.

Conclusion: Our study showed that the severity of muscle loss, along with lower levels of serum albumin and potassium, is strongly associated with falls in hemodialysis patients.

Impact Statement: Further interventional studies are warranted to investigate the effect of nutritional interventions in reducing fall risk in these patients.

Abstract Category

Clinical Research

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PREVENTING THE UNEXPECTED: ASSESSING SUDDEN CARDIAC DEATH SCREENING IN LEBANESE SPORTS CLUBS

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Abstract Body

The American Heart Association (AHA) defines sudden cardiac death (SCD) as an unexpected natural death from a heart disorder within a short timeframe in someone with no prior known heart condition. Though rare, SCD is a growing concern among young seemingly healthy athletes, highlighting the need for earlier screening and preventive interventions. In this context, Pre-Participation Examinations (PPE) play a key role in identifying at-risk athletes. This study aims to determine the prevalence and practice of PPE and assess the preparedness of clubs in the event of sudden cardiac arrest among these young at-risk athletes in Lebanese sports clubs (LSCs).

A descriptive cross-sectional study was conducted by using a simple random sampling approach between April 2024 and January 2025. It included 283 responses from licensed and registered LSCs across all Lebanese governorates that train athletes aged 12 to 35 years engaged in moderate to high physical activity. The questionnaire incorporated a scale adopted from a study conducted in Saudi Arabia, originally assessing the practice and knowledge of PPE among primary care physicians. It also included sections on the club's profile and demographics, AHA guidelines, electrocardiogram testing, healthcare professionals, and safety measures and policies.

PPE was conducted by 36.7% of LSCs, and among those only 19.2% of them had satisfactory PPE practices, while 60.3% had unsatisfactory levels, with statistically significant differences based on club's location, year of establishment, medical staff type, and automated external defibrillator availability ($p < 0.05$).

In conclusion, this study highlights the low prevalence of PPE among LSCs and the high prevalence of unsatisfactory practices among those who perform them. The findings have the potential to enhance athlete safety, raise awareness among sports clubs, and inform national guidelines, ultimately reducing the incidence of SCD in sports.

Abstract Category

Epidemiology & Public Health

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PREVALENCE OF OBSTETRIC VIOLENCE IN LEBANON AND ITS ASSOCIATION WITH SOCIODEMOGRAPHIC AND PREGNANCY-RELATED FACTORS: A CROSS-SECTIONAL STUDY

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Abstract Body

Background: Obstetric violence is a critical issue that undermines the quality of maternity care, with profound implications for maternal well-being and the patient-provider relationship. Despite its significance, limited research has addressed this phenomenon in Lebanon. This study aimed to assess the prevalence of obstetric violence in Lebanese healthcare facilities and examine its association with demographic and pregnancy-related characteristics.

Methodology: A cross-sectional study was conducted among 211 women aged 18-50 years who had delivered at least once in Lebanon. Data were collected using a structured questionnaire that assessed seven subcategories of obstetric violence. Statistical analyses, including chi-square tests, independent t-tests, and binary logistic regression, were performed using SPSS version 26, with a significance level set at $p < 0.05$.

Results: The prevalence of obstetric violence was 46.4%, with the most frequently reported subcategories being lack of communication (24.2%, $p = 0.000$), lack of support (24.2%), and lack of choices (22.7%), while harsh or rough treatment/physical violence (10.0%) and discrimination (3.3%) were less frequent. Significant associations were observed between obstetric violence and younger age (mean age: 31.74 vs. 35.05 years; $p = 0.005$) and negative birth experiences ($p < 0.001$). Logistic regression identified overall birth experience as a significant predictor, with each unit increase in the rating reducing the likelihood of obstetric violence by nearly half (OR = 0.532; 95% CI: 0.412–0.687; $p < 0.001$). Age was also a significant predictor, with younger women being more likely to experience obstetric violence (OR = 0.952; 95% CI: 0.919–0.987; $p = 0.007$).

Conclusion: Nearly half of the participants reported experiencing obstetric violence, and younger women and those with negative birth experiences were particularly vulnerable. These findings underscore the need for systemic interventions to promote respectful maternity care and enhance patient-provider communication in Lebanese healthcare facilities.

Abstract Category

Epidemiology & Public Health

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PREVALENCE AND FACTORS ASSOCIATED WITH RESPIRATORY FAILURE IN NEONATES ON BUBBLE CPAP AT A LEBANESE TERTIARY CARE HOSPITAL

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Abstract Body

Background: Bubble Continuous Positive Airway Pressure (bCPAP) is a widely used, noninvasive intervention for managing respiratory distress (RD) in neonates, including preterm, term, and post-term infants. However, concerns about the potential failure of bCPAP support persist, particularly in low- and middle-income countries. This study aimed to determine the prevalence of bCPAP failure in neonates with RD, and to identify the factors associated with its failure.

Methods: This retrospective single-centered cross-sectional study included term and preterm neonates with RD who received bCPAP therapy within the first 24 hours of life, from July 2024 to December 2024. Data were collected from medical records, including maternal, neonatal, RD, and bCPAP-related variables. bCPAP failure was defined as the need for invasive mechanical ventilation within 72 hours of bCPAP initiation. Variables were compared between infants with bCPAP failure and bCPAP success.

Results: This study included a total of 35 neonates with RD placed on bCPAP within the first 24 hours of life. The mean gestational age of the cohort was 35.49 ±2.51 weeks and the mean birth weight was 2534±597.62 grams. The majority of neonates were male (60%), born preterm (62.9%), and had a normal birth weight (57.1%). bCPAP failure rate was 20%. Oxygen requirements (FiO_2) (p-value < 0.001), sepsis risk (p-value = 0.027), RD diagnosis (p- value = 0.017), and RD severity (p-value = 0.006) were significantly associated with bCPAP failure.

Conclusion: This study demonstrated that bCPAP is a safe and effective therapy for neonates with RD, with a low failure rate. Factors significantly associated with bCPAP failure included higher oxygen requirements, sepsis risk, RDS diagnosis, and severity of RD.

Impact Statement: The findings of this study will enhance the early identification of high-risk cases for bCPAP failure, optimize treatment strategies and ultimately improve neonatal outcomes.

Key words: Neonates, bCPAP, RDS, failure.

Abstract Category

Clinical Research

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INCIDENCE AND OUTCOMES OF PNEUMONIA IN PATIENTS WITH SUBARACHNOID HEMORRHAGE: A NATIONWIDE COHORT STUDY

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Abstract Body

Cerebrovascular accidents are considered the second leading cause of death worldwide, and subarachnoid hemorrhages (SAHs) are the third most common type of stroke. Patients with acute cerebral events, especially those with dysphagia or micro-aspiration, are often more prone to developing pneumonia, leading to poorer outcomes. This study aimed to investigate the prevalence of pneumonia among patients with SAH, characterize their clinical and epidemiological profiles, and assess the impact of pneumonia on clinical outcomes, economic burden, and discharge disposition. Adult patients hospitalized on an emergency basis with a primary diagnosis of SAH (ICD-10 codes) between 2017 and 2021 were identified from the National Inpatient Sample database. The Charlson Comorbidity Index was used to compare the burden of comorbidities, and relevant clinical outcomes were assessed. Statistical analysis was performed using STATA BE version 17.0.

Among the 119,195 SAH patients, 5% had bacterial pneumonia. Patients with pneumonia had a slightly younger median age (59 years vs. 60 years, $p < 0.01$) and a lower proportion of females (56.01% vs. 61.32%, $p < 0.01$). No statistically significant difference was seen in mortality between the pneumonia cohort and the control cohort (19.37% vs. 18.57% respectively, $p = 0.49$). A longer median length of stay (25 days vs. 8 days, $p < 0.01$) and greater total hospital charges (575214.5$ vs. 166774$, $p < 0.01$) were observed among patients in the pneumonia group. Most pneumonia patients were discharged to skilled nursing facilities (65.74% vs. 27.57%), while only 6.43% of pneumonia patients were discharged home compared to 37.91% of patients without pneumonia.

Pneumonia in patients with SAH is associated with a longer median length of hospital stay, higher total hospital charges, and increased likelihood of discharge to skilled nursing facilities, highlighting the debilitating impact of pneumonia on economic and healthcare resources.

Abstract Category

Clinical Research

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EPIDEMIOLOGICAL PREDICTORS AND RISK FACTORS OF GASTROESOPHAGEAL RELUX DISEASE SEVERITY: A POPULATION-BASED STUDY

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Abstract Body

Background: Although previous research has evaluated Gastroesophageal Reflux Disease (GERD) epidemiology in the general population and in patient populations, respectively, no study has compared the prevalence or severity of GERD symptoms between these groups.

Objective: This study was designed to assess epidemiological predictors and risk factors of GERD severity.

Methodology: This descriptive, cross-sectional study with an analytic component was conducted using a survey that contained questions including possible predictors and risk factors of GERD, as well as the National Institutes of Health (NIH) PROMIS GERD scale to assess disease severity using printed questioners. The study population consisted of Lebanese adults aged ≥ 18 years suffering from GERD, with a sample size of 200 participants.

Results : Statistically significant predictors and risk factors in this study (all with p-value < 0.05) were: younger age was associated with more severe symptomatic GERD (55.3 % of participants aged 18-30 were in the most symptomatic group). There was also an association between dietary habits and GERD severity: chocolate consumption (90.9 % of consumers were in the most and moderately symptomatic groups), mint (40% of consumers vs. 35.1 % of non-consumers were in the most symptomatic group), and fatty/fried diets (42.9 % of consumers vs. 30.9% of non-consumers were in the most symptomatic group). In addition, this study showed an association between globus sensation and GERD severity (55.9 % of participants with the symptom were in the most symptomatic group). The study also showed an association between symptoms of Irritable bowel syndrome, functional dyspepsia, and GERD severity: dysphagia, nausea, epigastric discomfort, epigastric pain and epigastric fullness were all associated with increased GERD severity(61%; 52.5%; 48.5%; 51.2%; 50% of participants with these symptoms, respectively, were in the most symptomatic group).

Conclusion: This study showed that younger age, the mentioned dietary habits, globus sensation, symptoms of IBS and functional dyspepsia are risk factors and predictors of increased GERD severity.

Impact Statement: This study is of much importance to identify potential risk factors to help prevent GERD and GERD-related diseases.

Abstract Category

Epidemiology & Public Health

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SHOULD KYPHOSIS AND LORDOSIS BE MEASURED BASED ON ANATOMICAL LANDMARKS OR INFLEXION POINTS IN ADULT SPINAL DEFORMITY PATIENTS?

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Abstract Body

Background: Evaluating spinopelvic parameters is crucial in ASD assessment. TK and LL are traditionally measured using the Cobb angle from T1–T12 and L1–S1 (aTK, aLL). Alternatively, CT and TL inflexion points can define functional TK and LL (fTK, fLL). This study compares these measurement approaches in ASD.

Methods: ASD patients and controls underwent low-dose biplanar X-rays with 3D spine reconstructions (C3–S1). CT and TL inflexion points were identified using a spline-based method. fTK and fLL were measured between S1, CT and TK inflexion points. ASD patients were categorized as Frontal (Cobb > 20°), HyperTK (aTK > 60°), or Sagittal (PT > 25°, PI-aLL > 10°, or SVA > 50mm). Differences (.6TK = fTK - aTK, .6LL = fLL - aLL) were analyzed across groups and correlated with spinopelvic parameters.

Results: In total, 105 ASD (32 Frontal, 51 HyperTK, 22 Sagittal) and 110 controls were included. .6TK and .6LL were significantly higher in ASD compared to controls (9±8° vs 4±4°; 5±8° vs 3±2° resp.; both < 0.05). A significantly higher .6TK was found in the 3 subgroups compared to controls, especially in the sagittal group (Controls: 4±4° vs Frontal: 8±5°, HyperTK: 6±4°, Sagittal: 17±15°). The Sagittal group showed the highest .6LL across subgroups (Controls:3±2, Frontal:4±3°, HyperTK:2±2°, Sagittal:13±15°;all p < 0.001). Both fTK and fLL were positively correlated with SVA (r = 0.47 and r = 0.35,resp). fTK was positively correlated with the Cobb angle (r = 0.36). Furthermore, fLL was positively correlated with PI-LL (r = 0.47; all p < 0.001; Figure 1).

Conclusion: While both measurement methods showed statistically significant differences in controls, Frontal, and HyperTK ASD patients, these may not be clinically relevant and could reflect measurement bias. However, a larger discrepancy was observed in the sagittal group. Further research is needed to determine the most relevant method for surgical planning.

Abstract Category

Basic Science & Translational

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MIND OVER SCREEN: A CROSS-SECTIONAL STUDY EXAMINING THE MENTAL HEALTH AND SCREEN TIME RELATIONSHIP IN LEBANESE UNIVERSITY STUDENTS

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Abstract Body

Background: Excessive screen time is linked to negative mental health outcomes among university students.

Methods: This study surveyed university students in Lebanon to examine the relationship between mental health and screen time. Anxiety and depression were assessed using the Generalized Anxiety Disorder-7 (GAD-7) questionnaire and the Patient Health Questionnaire (PHQ-9), while screen time addiction was measured using the Smartphone Addiction Scale (SAS).

Results: Among 361 Lebanese university students (median age: 21, IQR: 19–25; 54% female), median daily screen time was 6.38 hours (IQR: 4.88-7.83). Median SAS score was 31.0 (IQR: 24-39), with 41.83% showing high screen time addiction. Daily screen time had a mild correlation with SAS ($r = 0.26$, $p < 0.001$). Median GAD-7 score was 7.0 (IQR: 4-12), with 38.5% reporting moderate/severe anxiety. Median PHQ-9 score was 7.0 (IQR: 4-12), with 37.67% reporting moderate/severe depression. GAD-7 and PHQ-9 scores were strongly correlated ($r = 0.718$, $p < 0.001$), with moderate correlations with SAS ($r = 0.36$ and $r = 0.38$, respectively; $p < 0.001$). About 30% attempted limiting screen time, but no significant difference in GAD-7 or PHQ-9 scores was found between those who succeeded or failed. Those who attempted but failed had higher SAS scores (33.5) than those who adhered to restrictions (29.0). Participants with minimal/mild anxiety used screens less than those with moderate/severe anxiety (6.2 vs 7.0 hours, $p = 0.001$), and those with minimal/mild depression used screens less than those with moderate/severe depression (6.3 vs 6.8 hours, $p = 0.043$). Regression analysis revealed that female sex ($ß = 3.85$, $p = 0.037$) and lower levels of physical activity ($ß = -1.72$, $p = 0.006$) were significantly associated with higher SAS scores.

Conclusion: Screen addiction was strongly linked to poorer mental health among university students, emphasizing the need for policies that support digital well-being and mental health initiatives.

Abstract Category

Epidemiology & Public Health

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SUCCESS OF LOWER-COST EPILEPSY SURGERY IN COUNTRIES WITH LIMITED RESOURCES: EXPERIENCE OF A UNIVERSITY MEDICAL CENTER IN LEBANON

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Abstract Body

Background: Epilepsy surgery is an established treatment for drug-resistant epilepsy, but its accessibility and cost-effectiveness remain challenging in low- to middle-income countries. This study evaluates the clinical outcomes and economic feasibility of epilepsy surgery at *Hôtel-Dieu de France* (HDF), highlighting the role of a streamlined presurgical evaluation in reducing costs.

Materials and Methods: A retrospective review was conducted on patients with drug-refractory epilepsy who underwent epilepsy surgery at HDF prior to the economic crisis, between 2007 and 2020. Data collection included demographics, epilepsy history, presurgical evaluations, surgery, and total costs (estimated in USD). Statistical analysis was performed using the Student t-test (p=0.05). Ethics committee approval was obtained.

Results: A total of 44 adult patients were included, with a mean age of 30 years at surgery; 66% were male. Patients had failed an average of four anti-seizure medications before surgery. The mean delay from epilepsy diagnosis to surgery was 15.8 years, significantly shorter than in developed countries. Notably, 50% of patients required only a minimal presurgical evaluation, consisting of a neurological consultation, video-electroencephalography (VEEG) and brain MRI. Advanced investigations (PET, SPECT, WADA test) were required in 29%, while invasive phase II evaluation was needed in only 21%. Despite this simplified approach, 77.2% achieved Engel I seizure freedom at a mean follow-up of 4.8 years. The total cost, including presurgical evaluation, was 8,081 USD — substantially lower compared to developed countries.

Conclusion: By utilizing a cost-effective presurgical evaluation and performing surgical interventions much earlier than in developed countries, epilepsy surgery at HDF achieved outcomes comparable to high-income countries at a fraction of the cost. However, the financial burden remains significant for uninsured patients.

Impact Statement: A targeted presurgical evaluation strategy can optimize epilepsy surgery outcomes at minimal cost, allowing better accessibility to epilepsy surgery in resource-limited settings.

Abstract Category

Clinical Research

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CARRIER RATES OF PATHOGENIC GENETIC VARIANTS IN NEONATAL SCREENING PANEL GENES: EXOME SEQUENCING-BASED STUDY OF 980 LEBANESE INDIVIDUALS

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Abstract Body

Background: Newborn screening programs (NSPs) are crucial public health initiatives aimed at detecting genetic disorders early, to allow timely interventions and prevent disease-associated morbidity and mortality when possible. In 2006, the American College of Medical Genetics (ACMG) established criteria for including disorders in NSPs. However, a standardized global NSP is challenging, as screening should be tailored to the epidemiology and genetic landscape of each region. This study aims to identify, among the list of genetic disorders included in global NSPs, those prevalent in Lebanon to better tailor the national NSP.

Material and Methods: Exome Sequencing (ES) data from 980 individuals in our in-house database were analyzed for a panel of 111 genes associated with NSPs worldwide.

Results: A total of 173 pathogenic/likely pathogenic variants were detected in 56 genes, including 48 involved in metabolic diseases and 8 in severe primary immunodeficiencies (PID). The CFTR gene was the most commonly mutated gene with a 5.15% carrier rate, with the c.1210-11T > G varient being the most frequent variant (in 2.2% of our cohort). The latter is associated with congenital bilateral absence of vas deferens. Besides CFTR, the most commonly mutated genes in our cohort were CYP21A2, HBB, PAH, and MCCC2 with carrier rates of 4.13%, 1.94%, 1.84% and 1.84%, respectively. Our findings also suggest that 1.33% of our cohort carries pathogenic variants in genes involved in severe PID.

Conclusion: This is the first study to use ES to investigate the global NSP-related genes in the Lebanese population. Our data shed light on the most prevalent genetic disorders related to NSPs in Lebanon.

Impact Statement: Our findings highlight the added value of adopting ES-based approaches in NSP, and underscore the value of integrating local genetic data into the national newborn screening and premarital screening programs, as this may help reduce the burden of genetic diseases.

Abstract Category

Basic Science & Translational

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UTERINE ARTERY DOPPLER PARAMETERS VARY SIGNIFICANTLY AMONG INFERTILE WOMEN WITH DIFFERENT PERCEIVED STRESS LEVELS DURING OVARIAN STIMULATION

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Abstract Body

Background: Psychological stress is common in infertile women and may reduce pregnancy success rates in assisted reproductive technology (ART). Stress elevates cortisol levels and disrupts the sympathetic nervous system, impairing vascular function and endothelial activity. However, its impact on uterine artery Doppler parameters during ovarian stimulation remains unclear.

Materials and Methods: This prospective observational study (January–December 2024) included 368 infertile women undergoing ovarian stimulation with letrozole (7.5 mg/day). Participants completed a medical history questionnaire and the Arabic-validated Perceived Stress Scale (PSS-10) and were categorized into low, moderate, and high stress groups. Women with polycystic ovary syndrome (PCOS) or endometriosis were excluded. On day 9 of stimulation, transvaginal ultrasound was used to assess ovarian follicles and uterine artery Doppler parameters, including time-averaged peak velocity (TAPV), maximal pressure gradient (PGmean), and systolic/diastolic (S/D) ratio.

Results: TAPV was significantly lower in the high stress group (5.51 ± 1.41 cm/s) than in the moderate (8.47 ± 1.67 cm/s) and low stress groups (14.32 ± 1.99 cm/s) ($p = 0.002$), showing a negative correlation with stress levels ($r = -0.439$, $p = 0.01$). PGmean was significantly reduced in the high (0.04 ± 0.08 mmHg) and moderate (0.04 ± 0.009 mmHg) stress groups compared to the low stress group (0.12 ± 0.031 mmHg) ($p = 0.004$, $r = -0.409$, $p = 0.01$). The high stress group had a significantly higher S/D ratio (307 ± 47) than the moderate (33.15 ± 6.45) and low stress groups (7.79 ± 2.29) ($p = 0.001$).

Conclusions: Perceived stress is associated with impaired uterine artery blood flow during ovarian stimulation, potentially affecting implantation and pregnancy outcomes.

Impact Statement: Stress reduction strategies before ART may improve uterine perfusion and reproductive success. Further research should explore long-term effects on embryo implantation, pregnancy progression, and fetal development.

Abstract Category

Clinical Research

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USAGE OF SOCIAL MEDIA BY LEBANESE HEALTHCARE PROFESSIONALS: A NECESSARY REGULATION?

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Abstract Body

Background: The use of social media by physicians is increasing. Despite its numerous benefits, this practice presents ethical, legal, and professional risks. General guidelines regarding media appearances have been issued by the Lebanese Order of Physicians (LOP). Therefore, our aim is to evaluate the medical content shared by Lebanese physicians and their compliance with LOP guidelines.

Materials and Methods: This cross-sectional study exhaustively included Instagram accounts of physicians currently practicing in Lebanon. A total of 180 accounts were randomized into six groups: Gynecology, Dermatology, Plastic Surgery, Otolaryngology (ENT), Surgery, and Medicine. Posts were analyzed using two evaluation grids — one assessing the content shared online and the other evaluating compliance with LOP guidelines. The criteria were derived from the LOP guidelines, and the Global Quality Scale (GQS) score was used. Ethics Committee approval was obtained.

Results: We identified 399 Instagram accounts belonging to Lebanese physicians. The vast majority of accounts and posts were related to four specialties: Plastic Surgery, Dermatology, ENT, and Gynecology. Of these, 180 accounts were included for analysis. Post analysis showed good evaluations for most criteria, except for the citation of references. However, we found heterogeneity among the groups, with statistically significant differences between them. Gynecology, Plastic Surgery, and ENT had lower GQS scores compared to other specialties. While most physicians demonstrated higher evaluation and compliance with ethical and promotional criteria, ENT, Plastic Surgery, and Dermatology exhibited lower scores and compliance.

Conclusion: The medical content shared by Lebanese physicians on Instagram demonstrates good informational quality. However, certain specialties do not fully comply with the ethical and promotional guidelines of the LOP, highlighting the need for more appropriate regulations and monitoring.

Impact Statement: This study lays the foundation for potential changes in social media regulations in Lebanon.

Abstract Category

Epidemiology & Public Health

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NUTRICARE: OPTIMAL NUTRITIONAL SUPPORT FOR BETTER MANAGEMENT OF PATIENTS WITH BREAST CANCER

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Abstract Body

Backgroud: Breast cancer, the most frequent cancer among women, poses a major challenge in oncology. Despite therapeutic progress, nutritional and psychological management remains insufficient, impacting patients' quality of life. NutriCare is an innovative platform leveraging AI to provide personalized follow-up and improve patient well-being. This study explores the role of AI in optimizing the follow-up of breast cancer patients and its impact on supportive care in oncology.

Material and Methods: This study developed an AI-based application that offers personalized nutritional, physical, and psychological support for breast cancer patients. Designed according to recommendations from specialized institutes, it provides an interface for patients and a dashboard for physicians. Currently under development, the platform will be regularly updated to ensure its effectiveness and alignment with advancements in oncology.

Results: The study involved 59 patients with breast cancer (mean age: 56.07 years). Among them, 49 were followed for two to three weeks, and 61.02% received chemotherapy. Regarding cancer stage, 44.07% were at stage II, 30.50% at stage IV, 15.25% at stage III, and 10.17% at stage I. Comorbidities affected 50.85% of the patients, and 27 had uncertain dietary intake. After the nutritional intervention, 48.98% gained weight, 16.33% lost weight, and 30.61% maintained their weight. The most common digestive symptoms were nausea (17 cases), constipation (9), and diarrhea (8). After the intervention, 92.3% of symptomatic patients showed improvement.

Conclusion: This study highlights the importance of appropriate nutritional management in cancer patients. An individualized diet promotes weight stability, improves treatment tolerance, and enhances quality of life. Adherence to recommendations and psychosocial support play a key role in dietary compliance. Limitations include incomplete data and lack of long-term follow-up. Future research should integrate innovative tools such as AI to optimize patient care. Nutrition is an absolutely essential pillar of oncological care, requiring an early and personalized approach.

Abstract Category

Clinical Research

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ACCEPTANCE AND FEASIBILITY OF THE ARTIFICIAL PANCREAS AMONG PATIENTS WITH TYPE 1 DIABETES IN LEBANON

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Abstract Body

Acceptance and Feasibility of the Artificial Pancreas in Lebanon, *Hôtel Dieu de France* - Beirut, Lebanon

Introduction: This study aims to assess the acceptance of the artificial pancreas (AP) among patients with type 1 diabetes (T1D) in Lebanon, based on their readiness for technological advancements, their perception of the device's features, and their satisfaction with their current treatment. The impact of cost on acceptance is also explored.

Methods: An observational, descriptive, and cross-sectional study was conducted on 63 T1D patients undergoing multiple daily insulin injections. Two questionnaires were used: the DTSQ to measure satisfaction with the current treatment and a modified version of the Oukes et al. questionnaire to evaluate AP acceptance. The intention to use the device was considered as a measure of acceptance. Statistical analysis was performed using STATA (v.17) through ordinal logistic regression and Spearman's correlation.

Results: The intention to use the AP was moderately positive (4.9/7). A higher level of optimism and openness to innovation, along with the perceived usefulness and compatibility of the device, significantly enhanced this intention, with compatibility emerging as the strongest predictor. Conversely, feelings of discomfort, insecurity, and perceived complexity acted as barriers to adoption. Moreover, age and satisfaction with the current treatment showed a negative correlation with AP acceptance. Notably, 88% of patients expressed willingness to pay less than $1,000 per year for the device.

Conclusion: The acceptance of the artificial pancreas in Lebanon is generally positive but limited by certain barriers. Raising awareness, ensuring financial accessibility, and providing medical support from well-trained professionals in automated insulin therapy are essential. Moreover, conducting interventional studies to assess adoption after real-life experience is crucial.

Key Points: Acceptance, Artificial Pancreas, Technological Readiness, Perceived Features, Current Treatment.

Abstract Category

Epidemiology & Public Health

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AI-DRIVEN AUTOMATION OF MEDICAL KEYWORD EXTRACTION AND ICD-10 CODE ASSOCIATION IN GASTROENTEROLOGY RECORDS

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Abstract Body

Introduction: ICD-10 coding is essential for structuring health data but remains a complex, time-consuming, and error-prone process. This study evaluates a model based on natural language processing (NLP) techniques, deep learning (DL) models, and linguistic rules to code hospital discharge summaries from the hepatogastroenterology department at *Hôtel-Dieu de France* (HDF).

Methods: A retrospective study was conducted on 324 discharge summaries. A detailed manual coding process served as a reference to compare the model's performance, measured by precision, recall, and F1-score. The system combines medical entity recognition, negation detection, and an ICD-10 code association algorithm based on cosine similarity scores.

Results: The overall performance of the model is low, with an F1-score of 0.371. The "R" chapter, which includes signs and symptoms, achieved the best results (F1-score of 0.574). Certain specific codes, such as "R53," "E78.5," and "K74.6," demonstrated excellent performance (F1-score > 0.9). However, limitations include a restricted database, insufficient contextual analysis, and errors related to the use of regex, and an inappropriate cosine similarity threshold.

Discussion: The results highlight the potential of a hybrid approach where the model assists a human coder. Improvements are necessary, including the integration of advanced models (LLM, DL), a larger database, and regex optimization. These adjustments could enhance the model's accuracy while maintaining its efficiency.

Conclusion: Although promising for certain codes, the model cannot be used autonomously in its current state. However, it could serve as a complementary tool to optimize the medical coding process, provided further validation and technical improvements are made.

Abstract Category

Epidemiology & Public Health

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EVALUATION OF POST-ON-CALL PRODUCTIVITY AND WORK SATISFACTION AMONG HEALTHCARE STUDENTS

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Abstract Body

Background: Medical on-call duties are integral to healthcare continuity but impose significant challenges on medical students, including stress, sleep deprivation, and reduced productivity. This study evaluates post-call productivity and work satisfaction among healthcare students, aiming to identify factors influencing their performance.

Materials and Methods: A cross-sectional study was conducted with 120 medical students in their 6th and 7th years at the Saint Joseph University of Beirut, undergoing rotations at *Hôtel-Dieu de France*. Participants completed an online questionnaire assessing sleep patterns, stress levels, productivity, and interpersonal relationships post-call. Descriptive and inferential statistical analyses were performed to interpret the findings.

Results: The majority of students reported sleep durations of 4–5 hours during calls, with poor sleep quality due to stress and interruptions. Over 50% experienced high stress levels post-call, which negatively impacted their work efficiency and personal tasks. Relationships with colleagues and family were strained for 40% of respondents. Productivity was markedly diminished, with 43% completing fewer tasks of lower quality.

Conclusion: On-call duties significantly disrupt healthcare students' sleep and productivity, with negative repercussions on both personal and professional domains, impairing academic performance and patient care, emphasizing the need for institutional interventions. Recommendations include optimizing shift schedules, providing stress management resources, and fostering a supportive work environment to enhance well-being and educational outcomes. The goal of this research is to contribute to the development of a healthcare education system that prioritizes both high-quality patient care and the well-being of future healthcare professionals, by comparing educational systems worldwide.

Take home messages: - Sleep deprivation, particularly among healthcare students during night shifts, significantly affects their productivity, cognitive performance, emotional stability, as well as personal and professional relationships. - The research highlights the need for institutional reforms to support healthcare educational journey by promoting balanced schedules, emotional well-being, and a supportive culture, ultimately improving training and patient care quality.

Abstract Category

Epidemiology & Public Health

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LACTIC ACIDOSIS, BICARBONATE THERAPY AND HEMODYNAMICS IN CRITICALLY ILL PATIENTS: EFFECTS ON MORTALITY

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Abstract Body

Background: Sodium bicarbonate infusion has been used in fluid resuscitation to correct acid-base disorders in early stages of sepsis and metabolic acidosis. However, its efficacy in sepsis with lactic acidosis remains controversial. This study aims to investigate whether sodium bicarbonate supplementation influences lactic acidosis in hospitalized patients or not.

Methods: A single-center analysis was conducted from January 2023 through December 2024. We analyzed data retrospectively on a total of 191 patients with sepsis and lactic acidosis within 24 hours of ICU admission. Patients' data and initial metabolic profile were obtained and analyzed. The primary outcome was ICU and hospital mortality at one week after admission.

Results: A total of 191 septic patients with lactic acidosis were identified in this study, including 85 in the SB (sodium bicarbonate) group and 106 in the non-SB group. Of the 191 patients with a mean age of 70 +/- 14.2 years, the SB group had a significantly higher 7-day mortality rate (36.5% to 16%; P-value = 0.001). These patients also required longer time on vasopressors (22.4% to 11.3%; P-value = 0.049) but no significance was observed in terms of the time spent on ventilation (P-value = 0.563). The SB group had a higher initial lactate (P-value = 0.003) and a higher initial Ph (P-value = 0.000) as well.

Conclusion: The use of sodium bicarbonate may be harmful in treating septic patients with lactic acidosis and thus shall be administered cautiously.

Abstract Category

Clinical Research

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EVALUATING THE FACULTY DEVELOPMENT PROGRAM IN HEALTHCARE PROFESSIONS AT THE SAINT GEORGE UNIVERSITY OF BEIRUT USING THE KIRKPATRICK MODEL

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Abstract Body

Background: Effective faculty development enhances academic and clinical education by equipping educators with evidence-based teaching strategies that improve student learning and, ultimately, patient care. This study evaluates the Faculty Development Program (FDP) at the Saint George University of Beirut Faculty of Medicine. The 26-week program consists of nine sessions designed to promote innovative teaching methods within an active learning framework. The study assesses the program's effectiveness using Kirkpatrick's Levels 1 and 2.

Methods: The FDP included 28 participants and was delivered asynchronously through Moodle. Each session concluded with a satisfaction questionnaire and a retrospective pre/post survey. Program evaluation followed Kirkpatrick's Model: Level 1 (Reaction): Satisfaction was assessed using a 5-point Likert-scale post-session questionnaire. Level 2 (Learning): Knowledge acquisition was measured through a 5-point Likert-scale retrospective pre/post surveys evaluating self-perceived competency gains.

Results: Participant satisfaction was high, with mean scores ranging from 4.01 (Frequency of Practical Examples) to 4.42 (Instructor's Responsiveness), yielding an overall satisfaction rate of 85.54% (Kirkpatrick Level 1). Retrospective pre/post surveys showed a 70% increase in self-perceived knowledge across key FDP topics, indicating significant learning gains (Kirkpatrick Level 2).

Conclusion: The FDP was well-received, demonstrating high satisfaction and measurable improvements in self-perceived knowledge. Future research should explore the program's long-term impact on teaching effectiveness and student learning outcomes (Kirkpatrick Levels 3 and 4).

Impact Statement: This study provides insights into the effectiveness of an asynchronous faculty development program grounded in active learning. Findings serve as a foundation for future investigations into its broader impact on medical education and patient outcomes.

Abstract Category

Epidemiology & Public Health

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COVID-19 BREAKTHROUGH INFECTIONS IN HEALTHCARE SETTINGS: A STUDY OF VACCINATION IMPACT AMONG WORKERS IN A TERTIARY MEDICAL CENTER IN LEBANON

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Abstract Body

Introduction: Healthcare workers remain at risk of COVID-19 infection despite widespread vaccination efforts. Breakthrough infections — defined as infections occurring between two weeks and six months after full vaccination (i.e. at least a 2-dose series) – continue to pose a concern with emerging variants. We aimed to study different variables influencing the rate of breakthrough infections among workers at the Lebanese American University Medical Center - Rizk Hospital from 2020 to 2023.

Methods: A structured questionnaire was administered to 300 respondents to collect data on demographics, vaccination history, exposure status, and COVID-19 infection outcomes. Statistical analyses, including bivariate and multivariate analyses, were conducted to assess factors associated with breakthrough infections.

Results: The overall prevalence of COVID-19 infections was 42%, of which 36.5% were classified as breakthrough infections. Of the 126 participants who contracted COVID-19, 18.3% experienced more than one infection. Multivariate analysis revealed that the number of vaccine doses was the only significant predictor of breakthrough infections, with additional doses significantly reducing the likelihood of infection (OR = 0.322, 95% CI: 0.116–0.893, p = 0.029). No significant associations were found between breakthrough infections and demographic characteristics, work area category, comorbidities, or exposure frequency. Symptoms were generally similar between breakthrough and non-breakthrough infections, except for nausea and vomiting, which were significantly more common in non-breakthrough cases (p = 0.003). Recovery times, including symptom resolution and the first negative PCR test, did not differ significantly between the two groups.

Conclusion: These findings indicate the protective effect of booster doses in reducing breakthrough infections among healthcare workers. The study emphasizes the need for continued vaccination campaigns, particularly in high-risk occupational environments, to maintain immunity and mitigate infection risks.

Abstract Category

Clinical Research

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IS THE SPINE-HIP BORDEAUX CLASSIFICATION FUNCTIONALLY RELEVANT?

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Abstract Body

Background: Adult spinal deformity (ASD) is known to affect the lumbo-pelvic complex and therefore the relationship between the spine and the hip. Several authors have studied the relationship between spine and hip mobility to evaluate dislocation risk after total hip replacement. The Bordeaux team classified patients as spine-users or hip-users based on PI and PT changes between sitting and standing radiographs. The aim was to determine if the Bordeaux classification is functionally relevant by analyzing pelvic and hip mobility using 3D kinematics.

Materials and Methods: 189 ASD patients with different types of deformity and 52 controls underwent biplanar X-rays in standing and sitting positions to calculate 3D spinopelvic and global alignment parameters and their adaptation between positions (Δ = sitting - standing). ASD patients were classified using the Bordeaux classification as spine-users if PI ≥ 40° and ΔPT > 10°, otherwise as hip-users. 3D sit-to-stand movement analysis assessed pelvic and hip kinematics within the normality corridor. ASD patients were categorized into retroverted pelvis and extended hips (Retro-Ext), anteverted pelvis and flexed hips (Ante-Flex), or normal kinematics. Distribution of the Bordeaux classification among pelvis and hip kinematics was evaluated (Fisher's test).

Results: ASD patients included 70 hip-users and 119 spine-users. Among them, 71 had an Ante-Flex pattern, 77 a Retro-Ext pattern, and 41 a normal pattern. Spine and hip users were equally distributed among the kinematic patterns (Fisher's test: $p = 0.8$). 55% of ASD with a retroverted pelvis-hip extended kinematic pattern during the sit-to-stand movement had a sagittal malalignment (Fisher's test: $p = 0.04$); an increased SVA was correlated to more extended hips during movement ($r = 0.2$, $p = 0.02$).

Conclusions: This study showed that spine-users and hip-users can have the same kinematic pattern during sit-to-stand movement. Thus, a new classification should incorporate 3D kinematics of the pelvis and hip in addition to the static radiographs in standing and sitting.

Abstract Category

Basic Science & Translational

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IMPLEMENTATION OF THE ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL IN PATIENTS NEEDING ELECTIVE COLORECTAL SURGERY IN A TERTIARY HOSPITAL

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Abstract Body

Introduction: Colorectal surgery is often associated with a high risk of postoperative complications and a prolonged length of hospitalization. The Enhanced Recovery After Surgery (ERAS) protocol aims to optimize intraoperative outcomes through a multidisciplinary approach. This study assesses the effectiveness of ERAS in a regional context.

Methods: A retrospective analysis was conducted at *Hôtel-Dieu de France* on 72 patients who underwent elective laparoscopic colorectal surgery according to the ERAS protocol between November 2023 and December 2024. The data included demographic, clinical, and postoperative parameters such as length of hospital stay, complications, and time to resumption of feeding.

Results: The results show a significant reduction in postoperative complications compared to the overall average. In addition, the mean length of hospital stay was 3.73 days for right colectomies and 4.34 days for left colectomies and proctectomies, compared to 6 to 9 days in traditional protocols. The application of the ERAS protocol in pre-, peri-, and postoperative settings contributed to these results.

Conclusion: This study confirms the effectiveness of ERAS in improving postoperative outcomes in colorectal surgery in a regional setting. It highlights the feasibility and usefulness of wider adoption of the protocol, although more research is needed to validate these findings in a variety of contexts.

Abstract Category

Epidemiology & Public Health

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BLOOD DONATION KNOWLEDGE, ATTITUDES AND PRACTICE: A CROSS-SECTIONAL STUDY AMONG THE GENERAL PUBLIC IN LEBANON

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Abstract Body

Background: Blood donation is essential for saving lives, yet low donor participation hinders effective transfusion services. In Lebanon, voluntary non-remunerated blood donation (VNRBD) accounts for only 20–25% of donations, underscoring the need to address knowledge gaps and misconceptions.

Objectives: This study assessed the knowledge, attitudes, and practices (KAP) regarding blood donation among Lebanese adults to identify key barriers and facilitators that can inform strategies for promoting VNRBD.

Methods: A cross-sectional online survey was conducted among 385 Lebanese adults (aged 18–65) using a self-administered questionnaire distributed via social media and snowball sampling. The survey covered sociodemographic data, a 26-item knowledge assessment, and items measuring attitudes and practices toward blood donation. Bivariate and multivariate logistic regression analyses examined associations between demographics, knowledge scores, and donation behavior.

Results: Campaigns by the Lebanese Red Cross were the main source of donation information (52%), followed by media (23%) and family/friends (14%). The median knowledge score was 13/20, with females scoring significantly higher than males ($p = 0.003$). Although 84.4% expressed willingness to donate in emergencies and 78.8% preferred voluntary donation, only 50.4% had ever donated blood. Logistic regression showed that males were 4.5 times more likely to have donated (OR: 4.50, $p < 0.001$) and individuals with good knowledge were over twice as likely to donate (OR: 2.33, $p < 0.001$). Older age groups were also significantly more likely to donate than younger participants.

Conclusion: Despite generally favorable attitudes and moderate knowledge, significant misconceptions and practical barriers — especially among younger individuals — limit blood donation in Lebanon.

Impact Statement: These insights are vital for designing targeted interventions to boost voluntary donations, ensuring a safer, more reliable blood supply in Lebanon.

Abstract Category

Epidemiology & Public Health

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IMPACT OF PROTON PUMP INHIBITOR USE ON RENAL FUNCTION IN KIDNEY TRANSPLANT RECIPIENTS: A LONGITUDINAL COHORT STUDY

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Abstract Body

Background and Aims: Kidney transplantation is the optimal treatment for chronic kidney disease, but lifelong immunosuppressive therapy and comorbidities lead to polypharmacy, increasing the risk of drug interactions and adverse effects on graft function. Proton pump inhibitors (PPIs) are widely prescribed, yet their long-term impact on graft survival remains uncertain. This study evaluates the effect of PPI use on kidney function in transplant recipients.

Method: This retrospective, single-center cohort study included 129 adult kidney transplant recipients at *Hôtel-Dieu de France* University Medical Center (2015–2022) with stable kidney function, excluding those with a history of for-cause biopsy. Patients were divided into PPI-positive (n = 65) and PPI-negative (n = 62) groups. Kidney function was assessed using the CKD-EPI formula at 6 months and at the end of follow-up (mean follow-up time: 5.25 ± 2.14 years). The primary outcome was relative kidney function decline, while secondary outcomes included gastrointestinal bleeding and new-onset diabetes (NODAT).

Results: PPI users were older (47 ± 15.2 vs. 39 ± 13.9 years, p = 0.004) and had higher rates of dyslipidemia (63.1% vs. 35.5%, p = 0.003). BMI was significantly higher in the PPI group at both 6 months (p = 0.016) and at follow-up (p = 0.005). Diabetes prevalence was also higher in PPI users (44.6% vs. 24.2%, p = 0.026), but NODAT and gastrointestinal bleeding rates were similar (p = 0.227 and p = 1.0, respectively). Renal function analysis showed a significant eGFR decline in the PPI group (-5.86 ± 4.16 mL/min/1.73m²) compared to stability or improvement in non-users (1.52 ± 4.53, p < 0.001). Multivariate analysis confirmed PPI use as an independent risk factor for kidney function decline (p < 0.001), with a 10% greater eGFR reduction.

Conclusion: Long-term PPI use in kidney transplant recipients is associated with significant graft function decline, while gastrointestinal bleeding incidence remains low. These findings align with previous studies and highlight concerns about routine PPI use in this population.

Abstract Category

Clinical Research

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MINDFULNESS PROGRAM AS A MODULATOR OF STRESS AND PAIN IN UNIVERSITY STUDENTS

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Abstract Body

Background and Aim: Mindfulness, a meditation practice rooted in present-moment awareness, is known to reduce stress, anxiety, and depression, enhancing quality of life. Stress is particularly prevalent among university students in health-related fields due to academic pressure and clinical training. This study examines the impact of a novel mindfulness program on stress and pain tolerance in university students.

Methods: Approved by the HDF Ethics Committee (CEHDF2112), this study included 60 healthy young adults randomly assigned to an experimental group (E, n = 29) receiving six weekly in-person mindfulness sessions, or a control group (C, n = 31) engaging in six online video discussions. Before and after the interventions, participants completed the Depression, Anxiety, and Stress Scale and a stressful math task with TENS shock. Pain tolerance was measured using withdrawal latency (seconds) in two Cold Pressor Tasks (CPT1-2). The experimental group performed a 5-minute mindfulness exercise between the post-intervention CPTs. Physiological stress markers (galvanic skin response (GSR), skin temperature, heart rate, respiration rate) were continuously recorded.

Results: Mindfulness significantly reduced depression (13±19,25 to 9±9; p = 0.004) and stress (13±11 to 11±8; p = 0.029) scores, while there was no significant change in the stressful math task. Pain tolerance improved in experimental group in CPT1 after the intervention (E = 91.31 sec±61.23 vs. C = 58.9 sec; p = 0.028), and increased further in CPT2 post- mindfulness exercise (E-pre = 91.31 sec±61.23 to E-post = 122.86 sec±62.04; p = 0.000), accompanied by a GSR reduction (E-pre = 5.20 µSiemens±4.47 to E-post = 4.12 µSiemens±3.52; p = 0.008). Controls exhibited a higher post-intervention heart rate during CPT compared to experimentals (85.39±11.52 bpm vs 77.74±10.71 bpm; p = 0.010), where a significant reduction was observed compared to pre-intervention (86.88 bpm±13.31 to 77.74 bpm±10.72; p = 0.001).

Conclusions: Mindfulness effectively reduces stress and enhances pain tolerance, supporting its use as a complementary pain management approach.

Impact Statement: This study highlights mindfulness as a valuable tool for stress and pain regulation, offering new insights into non-pharmacological interventions.

Abstract Category

Clinical Research

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STANDARD VERSUS HYPERANGULATED VIDEO LARYNGOSCOPE BLADES FOR INTUBATION IN NEONATES AND SMALL INFANTS: EVALUATION OF THE GLOTTIC VIEW

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Abstract Body

Background: Neonates and infants have a higher incidence of difficult airway. It is unclear whether video laryngoscopy blade design influences glottic view and intubation success. This study compares the percentage of glottic opening (POGO) between the hyperangulated Cobalt and the straight Miller blades during intubation of neonates and small infants. Secondary objectives include first-attempt success rate, number of attempts, time to successful intubation, and adverse events.

Materials and Methods: This prospective, randomized crossover trial involves neonates and small infants weighing ≤ 5 kg or ≤ 3 months old. Participants were assigned to one of two groups. In the Cobalt group, laryngoscopy was done using the cobalt blade and then intubation was done using the Miller blade, with POGO and Cormack-Lehane (C&L) classification recorded during both laryngoscopies. The reverse was done for the Miller group.

Results: The study enrolled 27 neonates and small infants. Their weight ranged from 2.8 to 6.5 kg, and age from 2 to 140 days. POGO was significantly higher with the Cobalt blade than the Miller blade (88.89±21.18 vs. 78.94±23.27, P = 0.036). However, C&L scores were not significantly different between the two groups (P = 1.00). Also, first-attempt success rate, successful intubation time, and incidence of oxygen desaturation were similar between the groups.

Conclusion: While the Cobalt blade offered better glottic visualization, intubation success rates and times were similar between both blades. This suggests that blade choice affects glottic exposure, but its impact on first-attempt success needs further study.

Impact Statement: This study identifies the technique that provides optimal glottic views and intubating conditions in neonates and small infants, contributing to improved patient safety.

Abstract Category

Clinical Research

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HOLTER ECG MONITORING IN PEDIATRIC POPULATION: INDICATIONS, FINDINGS, AND OUTCOMES IN A TERTIARY CARE CENTER

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Abstract Body

Background: Cardiac arrhythmias are a significant cause of morbidity and mortality in children. The clinical presentation of pediatric arrhythmia is variable, and their recognition requires a high index of suspicion. Holter electrocardiography monitor is a valuable noninvasive tool for diagnosing arrhythmia and aids in risk stratification of pediatric patients.

Aim: To identify the indications, results, outcomes, and diagnostic yield of Holter monitoring in the pediatric population.

Methods: Following institutional review board approval, a retrospective chart review was conducted at AUBMC. Medical records of patients aged ≤18 years who underwent ambulatory Holter monitoring were analyzed for demographics, clinical presentation, and Holter results.

Results: Data were collected from 100 patients, corresponding to 148 Holters, where 55 % were males and 45 % were females. Significant portion of children (21%) had congenital heart disease. Most children (72%) underwent only one Holter study. The most common indication for Holter monitoring was palpitations (39%), followed by post-operative evaluation after cardiac surgery (15%). Most frequently detected abnormalities included premature ventricular complexes (36%) and premature atrial contractions (33%), while supraventricular tachycardia and ventricular tachycardia were identified in 7% and 2% of patients, respectively. Among 36 patients with PVCs, 4 required antiarrhythmic therapy, and 1 underwent ablation.

Conclusion: Holter ECG monitoring plays a major role in the evaluation of pediatric patients, not only for reassurance but also for detecting clinically significant arrhythmias leading to crucial management decisions. While most studies yield normal results, a substantial proportion of patients had arrhythmic findings, with some needing medical intervention or invasive procedures. This highlights the importance of Holter monitoring, particularly in young children who are unable to effectively communicate their symptoms.

Impact Statement: Despite its well-established utility in adults, Holter monitoring remains underexplored in the pediatric population. This is one of the few studies worldwide, and the first in Lebanon, to assess its diagnostic and clinical impact in children.

Abstract Category

Clinical Research

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ASSESSING THE PHYSICAL AND MENTAL HEALTH OF HEALTHCARE WORKERS IN LEBANON AND THEIR IMPACT ON RETENTION FACTORS: A CROSS-SECTIONAL STUDY

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Abstract Body

Background: Medical students, doctors, and nurses face significant stressors that affect their physical and mental health. This study aims to assess and compare their physical and mental health considering the ongoing economic and social challenges, and to associate these health factors with retention factors.

Material and Methods: The study employed a quantitative approach, utilizing the Short Form-36 Health Survey (SF-36). It was conducted between August and December 2024, with 816 participants. Descriptive and comparative statistical analyses were performed. Consent was taken from all participants. Institutional Review Board reference number is ULS/IRB-2024-6.

Results: The study found significant health disparities among healthcare workers. Nurses had the lowest physical health scores (M = 69.04, SD = 28.77) compared to doctors (M = 84.50, SD = 23.67) and medical students (M = 87.39, SD = 20.91) with a statistically significant difference ($p < 0.001$), reflecting heavier physical workloads. Mental health scores were low across all groups (M = 50.23, SD = 19.04), with nurses scoring lowest (M = 48.66, SD = 17.30). Physical health positively correlated with retention factors like work-life balance, autonomy, job satisfaction, and economic stability ($p < 0.05$). Mental health negatively correlated with the importance placed on compensation/benefits as a retention factor ($p < 0.05$), suggesting that improved psychological well-being reduces retention's financial concerns. While compensation remains a top retention factor, addressing nurses' mental health challenges could enhance workforce stability and retention.

Conclusion: The consistently low mental health scores emphasize the urgent need for mental health support and stress management programs, particularly for nurses who appear to be at the highest risk. Targeted interventions should address both the physical strain and emotional burden faced by this group to ensure their well-being and ability to provide quality patient care.

Impact Statement: Understanding these health challenges and retention factors is crucial for developing strategies to improve workforce stability in the healthcare sector. Hospitals that invest in mental health initiatives can significantly enhance retention.

Abstract Category

Epidemiology & Public Health

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FACULTY-RESIDENT RELATIONSHIPS, PROFESSIONAL BEHAVIORS, AND PSYCHOLOGICAL SAFETY: A CROSS-SECTIONAL STUDY

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Abstract Body

Background: Clinical training happens in high-stress environments where patient safety is prioritized, but trainees need to feel safe to express ideas, seek help, and admit mistakes without fear of judgment. Limited studies exist on how psychological safety manifests in residency programs, particularly in non-Western contexts, where hierarchy is important. This study aims to evaluate psychological safety among residents and examine its association with faculty-resident relationships and faculty professional behaviors. It explores whether demographic characteristics and personality traits influence residents' perceptions of psychological safety.

Materials and Methods: We conducted a cross-sectional study among residents at a tertiary academic medical center in Lebanon. Data were collected using an online survey that included validated scales for psychological safety, faculty-resident relationship quality (JHLES-Faculty Relationship Subscale), and faculty professional behaviors and personality (TIPI-Ten-Item Personality Inventory). Statistical analyses included descriptive measures, correlation analyses, and multivariable regression models.

Results: A total of 204 residents participated in the study (response rate: 69.12%). Psychological safety scores were moderate (mean: 3.02 ± 0.40 on a 5-point scale). Faculty- resident relationship quality was a strong and consistent predictor of psychological safety ($p < 0.001$), while faculty professional behaviors were positively associated with psychological safety ($p < 0.001$) but became non-significant when adjusted for relationship quality. No significant associations were found between psychological safety and demographic characteristics or personality traits.

Conclusions: This study underscores the critical role of interpersonal dynamics in fostering psychological safety within hierarchical clinical settings. While professionalism is necessary, meaningful faculty engagement and mentorship are key to creating a psychologically safe learning environment.

Impact Statement: This study provides insights that, while faculty professional behaviors are important, their effectiveness depends on meaningful faculty engagement. Programs such as implementing formal mentorship programs, faculty coaching on emotional intelligence, and structured psychological safety workshops could help reinforce faculty-resident dynamics. Residency programs may also benefit from periodic climate assessments.

Abstract Category

Clinical Research

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AROMATASE INHIBITOR-INDUCED BONE LOSS IN POSTMENOPAUSAL WOMEN WITH BREAST CANCER: IDENTIFICATION AND SYSTEMIC APPRAISAL

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Abstract Body

Background: Aromatase inhibitors (AIs) are the standard endocrine therapy for postmenopausal women with estrogen receptor-positive breast cancer (ER+ BC) but accelerate bone loss, increasing fracture and osteoporosis risk. Despite numerous clinical guidelines on AI-induced bone loss, discrepancies exist. We aim to systematically review and synthesize osteoporosis guideline recommendations in postmenopausal ER+ BC.

Materials and Methods: We searched PubMed, Medline, Embase, and Cochrane Library for clinical practice guidelines and position statements (2009-April 2024). We screened citations and full texts and abstracted data in duplicate and independently.

Parameters of interest: screening indications, diagnostic methods, prevention strategies, treatment indications/options, follow-up recommendations. (Protocol registration: CRD42020196567)

Results: Our search yielded 2,114 citations; we included 12 guidelines. All recommended baseline fracture risk assessment and bone mineral density (BMD) measurement. Prevention strategies were diverse: calcium (1,000-1,200 mg/day) and vitamin D supplementation (800-2,000 IU/day) (11/12 guidelines); weight-bearing exercise (9/12); smoking and alcohol reduction (4/12). All guidelines recommended treatment for T-scores at any site ≤-2.5. Six guidelines used 10-year fracture risk assessment (FRAX) as an intervention criterion (≥ 3% hip or ≥ 20% major osteoporotic fracture risk). Prior fractures were a treatment indication in 6 guidelines, while others classified them as risk factors considered alongside T-scores. Bisphosphonates (oral/intravenous) and denosumab are recommended; two guidelines recommend denosumab as first-line, while two recommend it second-line. All guidelines recommended follow-up BMD at 1-2 years, with one advising monitoring bone markers every 3-6 months.

Conclusion: While screening and prevention recommendations align, treatment thresholds and follow-up protocols vary in managing AI-induced osteoporosis in ER+ BC.

Impact Statement: This is the first study to systematically compare/contrast guidelines on AI-induced bone loss in postmenopausal ER+ BC and highlight the need for guideline harmonization to improve patient care. We used our findings to develop a clinical care algorithm for bone health in this specific population.

Abstract Category

Clinical Research

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FANS CLEARS KIDNEY STONES SUCCESSFULLY: DOES ONE SIZE FIT ALL?

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Abstract Body

Background: Flexible and Navigable Suction Ureteric Access Sheath (FANS) enhances flexible ureteroscopy (FURS) by improving stone-free rates and reducing reintervention. However, the optimal length remains uncertain. Incorrect FANS length may lead to intraoperative complications such as scope damage, sheath displacement, or genital compression. This study aims to establish criteria for FANS length selection based on patient-specific anatomy.

Materials and Methods: This prospective single-arm trial consists of two phases: Phase 1 evaluates intraoperative retrograde pyelography for determining ideal FANS length, while Phase 2 examines long-term outcomes. Adult patients with normal renal anatomy undergoing FURS were included. Standardized measurements, operative parameters, and postoperative imaging were analyzed using SPSS, with statistical significance set at $p < 0.05$.

Results: Twelve patients (mean age = 50.9 years, 33.3% male) underwent FURS with a FANS sheath. Mean BMI was 28.0, and all were ASA I/II. Preoperative creatinine was 0.85 mg/dL, rising to 0.94 mg/dL postoperatively. A third were first-time stone formers. The mean stone diameter was 14.2 mm, mean HU 1,107, and stone volume 1,093 mm^3. Operative ease ratings on a 5-point Likert scale were 1.6 for suctioning, 1.6 for manipulation, and 1.4 for visibility, indicating excellent performance. The optimal FANS length was used in 66.7% of cases and was within ±4 cm of the preoperative ureteric catheter length, supporting its accuracy in sheath length determination. The stone-free rate 1 month postoperatively was 50%, with residual fragments in the other 50% averaging 649 mm^3.

Conclusion: Intraoperative ureteric catheter measurements reliably guide FANS sheath length selection, optimizing access while reducing complications. FANS demonstrated excellent postoperative outcomes. Future studies with larger cohorts are needed to refine selection criteria and validate long-term benefits.

Impact Statement: This study supports a standardized approach to FANS sheath selection, enhancing surgical precision, procedural efficiency, and stone-free rates while minimizing complications and reinterventions.

Abstract Category

Clinical Research

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THE RELATIONSHIP BETWEEN AVERAGE AND GLYCEMIC VARIABILITY AND THE LENGTH OF HOSPITALIZATION IN INTENSIVE CARE UNITS: MEDICAL, SURGICAL, AND CARDIOVASCULAR

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Abstract Body

Context and Objectives: Stress hyperglycemia is common in the intensive care unit (ICU) and is associated with increased morbidity and mortality. The effects of strict glycemic control in the ICU remain controversial. Additionally, the impact of glucose variability has been poorly studied in the ICU. The objective of our study is to examine the relationship between mean glucose values (MG) and glucose variability (GV) on one hand, and length of hospital stay (LHS) and mortality on the other hand, in three ICUs at *Hôtel Dieu de France* during July and August 2024.

Materials and Methods: From medical records, we collected the following data: age, gender, body mass index (BMI), glomerular filtration rate (GFR), history of diabetes or hypertension, use or non-use of corticosteroids or vasopressors, total LHS and LHS in ICU, death during the hospital stay, and readmission within 6 months after discharge. Capillary blood glucose values were also collected, and MG and GV were calculated.

Results: There is a positive significant correlation between GV and LHS (rho = 0.193; p-value = 0.028), LHS in ICU (rho = 0.265; p-value = 0.002), and mortality (rho = 0.173; p-value = 0.049). This correlation is not significant for MG. Furthermore, there is a significant negative correlation between GV and GFR (rho = -0.274; p-value = 0.002) and a significant positive correlation between MG BMI (rho = 0.293; p-value = 0.001). Finally, MG is higher in the cardiac ICU (p-value = 0.011); however, there is no difference between the ICUs in terms of GV.

Conclusion: In the ICUs of HDF, GV is correlated with LHS, LHS in ICU, and mortality.

Impact Statement: GV should itself be a therapeutic target for ICU patients, so continuous blood glucose monitoring is useful but not necessarily cost-effective (more studies are needed).

Abstract Category

Clinical Research

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THE CHANGING LANDSCAPE OF URINARY DIVERSION POST-CYSTECTOMY: A 15-YEAR ANALYSIS OF THE NSQIP DATABASE

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Abstract Body

Background: Radical cystectomy (RC) with urinary diversion is the standard treatment for muscle-invasive and high-risk non-muscle-invasive bladder cancer. Urinary diversion methods have evolved over time, but trends in the adoption of continent versus incontinent diversions remain unclear. This study evaluates national trends and factors influencing urinary diversion selection following RC.

Materials and Methods: Using the American College of Surgeons' National Surgical Quality Improvement (ACS NSQIP) dataset (2008–2022), we identified patients undergoing RC with incontinent or continent diversion via CPT codes 51595 and 51596. Temporal trends were analyzed across demographic subgroups, and multivariate logistic regression assessed factors associated with urinary diversion selection.

Results: Among 20,466 patients, 80.5% underwent incontinent diversion and 19.5% underwent continent diversion. The proportion of incontinent diversions increased significantly from 73.6% in 2008–2011 to 82.7% in 2020–2022 ($p < 0.001$). Continent diversions declined overall, with the most significant decrease among males and patients 18–60 years old. White patients experienced a significant decline, while trends in Black and Asian patients were not significant.

Conclusion: Our NSQIP analysis showed a significant decline in continent urinary diversions, influenced by sex, age, and race. The increasing use of incontinent diversion, even in younger patients, suggests non-patient-related factors may be driving this shift. Further research is needed to optimize patient-centered decision-making.

Impact Statement: This study reveals a significant shift toward incontinent urinary diversions, suggesting non-clinical factors may be influencing decision-making. Further research is needed to ensure patient-centered care.

Abstract Category

Clinical Research

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COMPLICATIONS OF MALE STRESS URINARY INCONTINENCE SURGERY: A COMPARISON OF URETHRAL SLING VS ARTIFICIAL URINARY SPHINCTER USING THE NSQIP DATABASE

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Abstract Body

Background: Male stress urinary incontinence affects quality of life and can lead to social withdrawal if untreated. When conservative treatment fails, surgical options are artificial urethral sphincter (AUS) and male urethral sling implantation. This study aimed to compare 30-day postoperative outcomes of AUS versus sling implantation procedures using data from a multicenter database.

Materials and Methods: Patients who had male urethral sling or artificial urinary sphincter implantation from 2008 to 2022 were identified in the American College of Surgeons National Surgical Quality Improvement Program database. Patient characteristics, intraoperative factors, and 30-day postoperative outcomes were compared by procedure type. A multivariate logistic regression was used to adjust for relevant variables.

Results: From 2012 to 2022, 4,498 male patients were analyzed: 39.6% had sling placement, and 60.4% received artificial urinary sphincters. The sphincter group experienced higher rates of infection (2.9% vs. 1.6%), surgical site infections (1.7% vs. 0.7%), genitourinary complications (3.4% vs. 1.6%, $p = 0.002$), readmissions (3.8% vs. 1.7%, $p < 0.001$), unplanned reoperations (2.0% vs. 1.1%), and Clavien-Dindo (CD) Grade IV complications (4.2% vs. 2.4%). Adjusted analysis also showed higher risk in the sphincter group for overall complications, surgical site infections, genitourinary complications, reoperation, CD I-II and CD III complications, and longer hospital stays as shown in Table 2.

Conclusions: AUS implantation has higher postoperative complication rates than male urethral sling placement. These findings can aid surgeons in counseling patients on short-term risks versus functional benefits of each procedure. Further research is needed to evaluate the long-term outcomes.

Impact Statement: Our study provides updated multicenter data to help understand the relative post-operative complication rates of both procedures and better counsel patients about available surgical options.

Abstract Category

Clinical Research

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OVARIAN CANCER IN THE MIDDLE EASTERN NORTH AFRICAN COUNTRIES: A SYSTEMATIC REVIEW

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Abstract Body

Background: Ovarian cancer (OC) is the fifth most common cause of cancer-related death among women. The understanding of this disease has evolved, with increasing research on risk and protective factors, as well as treatment strategies and diagnostic methods.

Aims: We aimed to group and organize the epidemiological features of OC, the different screening methods and treatment strategies, and the risk and protective factors in the Middle East and North Africa (MENA) region and compare them with data from other countries.

Material and Methods: To obtain the highest number of topic-related articles, an extensive electronic search was conducted in the PubMed MEDLINE database up to May 2024 using a combination of keywords and MeSH terms. The estimated age-standardized incidence rates in the MENA region were collected from the GLOBOCAN 2022 database.

Results: 89 articles were retrieved from 12 countries in the MENA region. Epidemiological elements, OC diagnostic methods, therapeutic strategies, as well as risk and protective factors were collected. The findings were categorized by topic and subsequently arranged in tables and graphs, allowing a comprehensive analysis from both a global and regional perspective.

Conclusion: This review shows that the MENA region is regarded as a low-rate OC incidence region. The lack of well-representative OC data in different MENA countries should trigger an improvement in research on this type of malignancy.

Keywords: ovarian cancer, MENA region, treatment, diagnostic methods, epidemiology, BRCA1, BRCA2

Abstract Category

Epidemiology & Public Health

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POSTOPERATIVE NEUROLOGICAL COMPLICATIONS IN PEDIATRIC CARDIAC PATIENTS: THE EXPERIENCE AT A TERTIARY CARE CENTER IN A DEVELOPING COUNTRY

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Abstract Body

Background: Surgically treated congenital heart disease (CHD) patients suffer from numerous complications, including neurological injuries, significantly impacting morbidity and mortality. This retrospective study investigates the incidence of postoperative neurological complications in surgically treated CHD patients.

Method: It is a retrospective EPIC/EHR chart review of surgically treated CHD patients from 2001 till 2021. We collected demographic and perioperative information, inferred the incidence of postoperative neurological complications, and compared patients based on morbidity and mortality.

Results: From our sample of approximately 2,500 surgically treated CHD patients, 60 patients (2.4%) suffered postoperative neurological complications. Most were diagnosed in the neonatal period (n = 35, 58.3%), had cyanotic (n = 36, 60.0%) and complex CHD (68.3%). Age at surgery was most commonly during the neonatal period (n = 24, 40.0%). During the procedure, 38 patients were put on bypass (63.3%) with a median bypass time of 68.5 min (IQR 0-156.5 min), and 16 were maintained in hypothermia (26.7%). Postoperative neurological complications were most commonly ischemic brain injuries (21.7%), ischemic strokes (21.7%), and isolated seizures with normal imaging (20.0%). In-hospital mortality rate was 13.6% (n = 8), with the cause of death being non-neurologic in all cases. Morbidity was significantly associated with CHD type; patients with acyanotic CHD were more likely to suffer from other non-neurologic complications, while patients with cyanotic CHD were less likely to do so (p = 0.0041). Morbidity was also significantly associated with longer length of stay (p = 0.0479), and longer intubation duration (p = 0.0260).

Conclusion: Our study highlights the incidence and distribution of postoperative neurological complications in surgically treated CHD patients at our institution. Perioperative factors previously linked to postoperative neurological complications were investigated and were consistent with our results.

Impact Statement: Our results underscore variables that put our patients at increased risk of neurological injury and the importance of trying to control them to mitigate adverse outcomes.

Abstract Category

Clinical Research

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PSYCHOMETRIC EVALUATION OF THE LEBANESE ARABIC VERSION OF THE TEN-ITEM PERSONALITY INVENTORY

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Abstract Body

Background: Personality is a structured set of traits that shape behavior, cognition, and social interactions. Available personality measures are lengthy, and hence aren't practical in multi-construct studies. The Ten-Item Personality Inventory (TIPI) offers a concise, reliable alternative and has been validated in more than 25 languages. We, therefore, aimed to examine its psychometric properties in Arabic, among the Lebanese population.

Methods: This cross-sectional study involving 212 Lebanese adults was conducted during February 2025. Data collection was performed using a demographics questionnaire, the Arabic version of the TIPI scale consisting of 10 items, and the Arabic version of the Big Inventory-2 Short Form consisting of 30 items for convergent validity. Test-retest reliability was assessed in a subsample of participants who filled the form twice: initially and after 2 weeks. Institutional Review Board (IRB) approval was received (Code: 2024-IRB-048).

Results: The translated TIPI scale demonstrated moderate internal consistency, with Cronbach's alpha ranging from 0.167 to 0.515. The split-half reliability, as measured by the Spearman-Brown coefficient, was moderate at 0.649. Test-retest reliability indicated good stability for Agreeableness, Emotional Stability, and Openness to Experience (0.933, 0.864 and 0.792, respectively). However, the internal consistency coefficients for Extraversion and Conscientiousness were low (0.6 and 0.68, respectively), and structural validity was not supported. Satisfactory convergent and discriminant validity was observed in relation to the Big Five Inventory (BFI-2 Short Form).

Conclusion: As in the other translations, the Arabic TIPI shows limitations in internal consistency, especially concerning Extraversion and Conscientiousness, which is also consistent with the properties of the original scale.

Impact Statement: This validation provides clinicians and researchers with a rapid tool for personality assessment, aiding in the identification of personality traits that may influence mental health outcomes and treatment responses.

Abstract Category

Epidemiology & Public Health

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LOWER LIVER IRON BURDEN ASSOCIATES WITH INCREASED TIME SINCE LAST TRANSFUSION IN EPISODICALLY TRANSFUSED CHELATION-NAÏVE SICKLE CELL PATIENTS

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Abstract Body

Background: Intravascular hemolysis (IH) contributes to urinary iron excretion in sickle cell disease (SCD) patients. IH-related iron loss may mitigate iron overload in episodically transfused SCD patients.

Aims: To explore the relationship between liver iron concentration (LIC) and transfusion history in episodically transfused, iron chelation-naïve SCD patients.

Methods: A prospective surveillance study was conducted at a comprehensive SCD referral center in North Lebanon. Chelation-naïve patients with ≥ 10 total lifetime transfusions (TNT) or steady-state serum ferritin > 1,000 ng/mL for 3 months were enrolled. LIC was measured using FerriSmart MRI, and transfusion history was recorded. Transfusion rate was calculated as TNT/years receiving transfusions. Correlations were assessed using Pearson's or Spearman's tests, and group comparisons used the Mann-Whitney test.

Results: Seventy-two patients (SS = 58; SB^0 = 7; SB^+ = 6; SQ = 1) were included (median age: 24 years, range: 8–54). LIC ranged from 0.6 to 37.3 mg Fe/g dry tissue (median: 1.45), with 50 patients having LIC < 3.2. TNT ranged from 10 to 400 (median: 30.5), and transfusion rate ranged from 0.45 to 10.5 (median: 1.95) units/year. No significant correlation was found between transfusion rate and time since last transfusion (R^2 = 0.01, p = 0.40) or between LIC and transfusion rate (R^2 = 0.005, p = 0.54). However, LIC correlated weakly with TNT (R^2 = 0.10, p = 0.008) and negatively with time since last transfusion (Spearman r = −0.40, p < 0.0001).

Conclusion and Impact: Longer transfusion-free periods were associated with lower LIC, independent of transfusion rate. These findings suggest that chelation-naïve SCD patients with low episodic transfusion rates may excrete iron, potentially through urine, reducing iron overload. This challenges the assumption that all transfused SCD patients require chelation and highlights the need for individualized iron management. Future longitudinal studies are needed to confirm this hypothesis and refine iron overload monitoring strategies.

Abstract Category

Clinical Research

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COMPARATIVE OUTCOMES OF PERIPHERAL NERVE BLOCK AND SPINAL ANESTHESIA IN DIABETIC FOOT SURGERIES: A RETROSPECTIVE COHORT STUDY

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Abstract Body

Background: Diabetic foot syndrome is a major complication of diabetes, often requiring below-knee surgical interventions. Effective anesthesia is critical for optimizing outcomes. Peripheral nerve block (PNB) and spinal anesthesia (SA) are commonly used techniques, each with advantages and limitations. This study aims to compare their efficacy in pain control, hemodynamic stability, and postoperative outcomes in diabetic patients undergoing below-knee surgeries in a resource-limited setting.

Materials and Methods: A retrospective cohort study was conducted at a tertiary care center in Lebanon, analyzing 105 diabetic foot surgeries in 45 patients. Patients received either PNB (71.4%) or SA (28.6%). Data on intraoperative and postoperative pain scores, opioid requirements, hemodynamic stability, and complications were collected. Statistical analyses included descriptive statistics, bivariate comparisons, and multivariable logistic regression to assess independent predictors of postoperative opioid use.

Results: PNB was associated with greater hemodynamic stability, with fewer episodes of intraoperative hypotension compared to SA. Specifically, systolic blood pressure (SBP) in the SA group dropped significantly at 10 and 20 minutes intraoperatively, whereas the PNB group maintained more stable readings. Additionally, 30.7% of PNB patients required postoperative opioids with a median morphine equivalence of 11 mg, compared to 40.0% of SA patients who required a median of 17.5 mg. Opioid requirements were lower in the PNB group but were not statistically significant. Both groups had similar intensive care unit admissions, hospital length of stay, postoperative complications, 30-day reoperations, and six-month mortality.

Conclusion: PNB provides superior hemodynamic stability over SA, making it a preferred choice for high-risk diabetic patients. Both techniques demonstrated comparable pain control and complication rates. PNB may be advantageous in resource-limited settings if training and equipment availability are addressed.

Impact Statement: This study provides valuable insights for anesthesia selection in diabetic foot surgeries, particularly in low- and middle-income countries seeking safe and cost-effective perioperative management strategies.

Abstract Category

Epidemiology & Public Health

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EVALUATING SEXUAL FUNCTION IN AIS PATIENTS UNDERGOING SURGERY AND BRACING COMPARED TO NON-AIS PATIENTS: A SYSTEMATIC REVIEW

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Abstract Body

Background: AIS influences the psychological well-being and quality of life of patients. While previous research explored the impact of AIS on these factors, limited studies examine the effect of treatment on sexual function.

Methods: Systematic searching (PubMed, Embase, Cochrane) identified 93 studies on sexual function in AIS patients (AISP) up to November 2024. Nine met inclusion and risk assessment (ROBINS-I) criteria. Demographics, treatment, and sexual and psychological assessments were extracted.

Results: This study included 3,075 participants: 1,085 AIS patients (861 females, 48 males) and 2,146 non-AIS individuals (NAIS). 587 AISP underwent surgery, 498 received bracing. Follow-up ranged between 2-28.3 years. Clayson (1987) reported higher GSSI score in AISP (5.97 ± 1.48) compared to NAIS (5.04 ± 2.01, p = 0.03), suggesting lower sexual satisfaction in AISP. Schroeder (2022) found higher sexual distress in AISP (FSDS score: 7.05 ± 3.02) versus NAIS (5.34 ± 2.79, p < 0.001). Surgery AISP had higher GSSI scores (6.39 ± 1.11) than bracing AISP (5.54 ± 1.7, p = 0.05), suggesting better sexual satisfaction. No significant difference in body image (Apter 1978; AISP [SIQ: 24.59 ± 6.57] and NAIS [26.8 ± 7.01, p = 0.16]) or self-esteem (Aina 2001; AISP: MODEMSRS: 15.40 vs. NAIS n = 5, p = NS) were found. However, Clayson (1987) reported a higher BIDS in AISP (5.475 ± 2.16) compared to NAIS (4.3± 2.16, p = 0.04). Differences between braced vs. surgery were NS in body image (DSFI: 17.54 ± 7.28 vs. 16 ± 6.46) and intimacy (TAT : 8.22 ± 4.36 vs. 8.83 ± 3.53).

Conclusion: AIS individuals report lower sexual satisfaction, greater sexual distress, and body image concerns than non-AIS. Surgery improves sexual satisfaction over bracing; both show no differences in body image or intimacy.

Impact Statement: This review examines the effects of AIS treatment on sexual function, body image, intimacy, and psychological well-being compared to non-AIS individuals, highlighting the need for further research with standardized assessment tools.

Abstract Category

Clinical Research

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ANDROGEN RECEPTOR INHIBITORS IN NON-METASTATIC PROSTATE CANCER AND BONE HEALTH: A SYSTEMATIC REVIEW

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Abstract Body

Background: Androgen receptor inhibitors (ARIs) do not reduce testosterone levels and are not expected to affect musculo-skeletal health. However, recent data suggest their possible deleterious effect on bone health.

Objectives: Evaluate the impact of ARIs on fracture incidence, bone mineral density, bone markers, and falls in individuals with non-metastatic prostate cancer (nmPCa).

Methods: We systematically searched MEDLINE and Embase (inception-2025). We included observational and interventional studies on men with nmPCa receiving ARIs (enzalutamide, apalutamide, darolutamide), compared to no treatment/placebo or other therapies (if applicable). We screened citations, full texts, and abstracted data in duplicate and independently, after a calibration exercise. We assessed studies quality using appropriate tools.

Results: We screened 846 citations, and included 37 articles: 10 observational studies and 4 trials [SPARTAN (8 articles), ARAMIS (14 articles), PROSPER (3 articles), ARENO (2 articles)]. Fractures were assessed as adverse events in trials. The ARAMIS trial (N = 1,509) compared darolutamide to placebo and showed similar rates of fractures. The SPARTAN trial (N = 1,207) compared apalutamide to placebo and showed a higher absolute number of falls (15.6% vs. 9.0%) and fractures (11.7% vs. 6.5%) with apalutamide. Similarly, the PROSPER trial (N = 1,401) showed a higher number of falls (18% vs. 5%) and fractures (18%vs. 6%) with enzalutamide compared to placebo. A trial comparing apalutamide to placebo (N = 89) showed similar bone marker levels at 12 weeks. A single-arm study on enzalutamide showed a significant increase in bone markers (30-50%) and decrease in bone density (2-3% at various sites) at 50 weeks (further analyses ongoing).

Conclusions: Second generation ARIs may be associated with a deleterious impact on bone health in patients with nmPCa. Trials systematically assessing bone health with ARIs are needed.

Impact Statement: Men with nmPCA on ARIs may be at risk of fractures. Bone health assessment may be indicated if ARIs are used in these patients.

Abstract Category

Clinical Research

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PRENATAL DIAGNOSIS VERSUS POSTNATAL DIAGNOSIS OF CONGENITAL HEART DISEASE: EXPERIENCE AT THE AMERICAN UNIVERSITY OF BEIRUT MEDICAL CENTER

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Abstract Body

Background: Congenital heart disease (CHD) is a major congenital malformation, affecting approximately 8 in 1,000 live births. Advances in cardiovascular diagnostics and treatment have improved survival rates, increasing the overall number of CHD patients while reducing infant mortality.

Methods: This study retrospectively reviewed medical records from a large tertiary care center in a developing country to compare the outcomes of prenatal vs. postnatal diagnosis of congenital heart disease (2010–2022).

Results: After institutional review board approval, data were collected on 210 children diagnosed with CHD. Males comprised 52.86%, with a mean maternal age of 31 years. Prenatal diagnosis occurred in 25.36% (mean: 33 weeks). A positive family history was reported in 20%, and the mean birth weight was 2,930 grams. C-sections were performed in 61%, and 79.61% were vigorous at birth. Only 20.48% had prenatal ultrasound screening. NICU admission was required for 86.2%, with rates of 94% in prenatally diagnosed cases vs. 83% postnatally. Regarding postnatal ultrasound findings, 56% of prenatally diagnosed patients had simple CHD, while 36% had moderate CHD. In contrast, among postnatally diagnosed patients, 44% had simple CHD, and 41% had moderate CHD. All prenatal cases required a lifesaving BT shunt, compared to 89% postnatally. The average hospital stay was 13 days for prenatal cases and 16 days for postnatal cases.

Conclusion: This study evaluates the outcome and prevalence of prenatal versus postnatal diagnosis, which is crucial to emphasize on the importance of early detection and management, as well as on the initial management of critically ill newborns who may benefit from life-saving procedures performed immediately after birth.

Impact Statement: This study emphasizes the significance of prenatal CHD diagnosis in shaping neonatal outcomes, from NICU admission and oxygen support to life-saving surgery and post-operative recovery.

Abstract Category

Clinical Research

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ANESTHETIC CHALLENGES IN HYBRID WARFARE: INSIGHTS FROM THE LEBANON PAGER EXPLOSIONS

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Abstract Body

Background: Hybrid warfare integrates conventional military force with unconventional tactics, posing unique challenges for healthcare systems. On September 17, 2024, Lebanon experienced a mass casualty incident (MCI) involving pager explosions, causing over 2,800 injuries and 12 fatalities. The Lebanese American University Medical Center-Rizk Hospital (LAUMC-RH) managed 45 patients, presenting injury patterns that tested disaster preparedness frameworks.

Methods: This retrospective study analyzed 37 patients requiring surgical intervention following the explosions. Structured templates captured data on demographics, injury characteristics, anesthetic management, and outcomes. The Anesthesia Emergency Preparedness Plan (AEPP), a phased response model developed to streamline disaster management, was evaluated.

Results: Common injuries included hand trauma (86.5%) and eye injuries (83.8%), with 45.9% presenting combined injuries. General anesthesia with rapid sequence induction (RSI) was performed in 94.6% of cases. Senior anesthesiology residents stationed in the Emergency Department (ED) played a pivotal role in triage and interdisciplinary coordination. Predefined workflows facilitated timely interventions, despite resource limitations, although ophthalmology operating room shortages delayed some care. Postoperative outcomes showed 97.3% of patients were discharged in stable condition, with one mortality.

Discussion: The AEPP facilitated structured decision-making, resource allocation, and team collaboration, highlighting the critical role of anesthesiologists in hybrid warfare. Challenges, such as resource shortages, underscore the need for refining preparedness plans. Integrating crisis resource management and tactical medicine into anesthesiology practice can enhance resilience.

Conclusion: The Lebanon pager explosions demonstrate the indispensable role of anesthesiologists in disaster response. Structured frameworks like the AEPP are essential for managing evolving hybrid warfare threats while advancing global healthcare resilience.

Impact: This study highlights the critical role of structured anesthetic preparedness in hybrid warfare, demonstrating how the AEPP framework enhances disaster response, optimizes resource allocation, and improves patient outcomes.

Abstract Category

Clinical Research

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ATTITUDE OF PARENTS IN LEBANON ON SEEKING MEDICAL CARE FOR THEIR CHILDREN FROM THE PHARMACIST

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Abstract Body

Background: The pediatrician's role in children's lives, which represents a vulnerable group in society, is indispensable. Nowadays, the economic situation in Lebanon may be forcing some parents to replace the pediatrician with a pharmacist as an affordable substitute for health-seeking and even vaccination of their children, which may put their lives in peril in many cases.

Objective: This study aims to determine Lebanese parents' attitudes towards seeking healthcare for their children from pharmacists instead of pediatricians.

Methods: This cross-sectional study involved a convenience sample of 450 participants who were surveyed through a modified, previously administered questionnaire that assessed demographics, social and economic features, and healthcare-seeking behavior of the participants.

Results: Nearly half of the study population (55%) would visit a pharmacist to seek healthcare for their children, mainly for prescribing drugs or minor medical complaints such as flu-like symptoms. Half of them (57%) would never/rarely be satisfied with the pharmacist's diagnosis without confirming it with a pediatrician. 71.1% of participants were regular pediatrician-visiting parents. 85.4% of the participants did not know that there is a Lebanese law that forbids pharmacists from diagnosing patients.

Conclusion: Our study demonstrated that many Lebanese citizens seek diagnosis for their children from pharmacists, and a major percentage of them have serious misconceptions about the role and abilities of pharmacists. The study also shows that the significant lack of knowledge about the pharmacists' role and what the Lebanese law allows them to do were the most important factors affecting parents' decision to seek healthcare for their children from pharmacists.

Abstract Category

Clinical Research

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IMPACT OF THE COVID-19 PANDEMIC ON NEW-ONSET DIABETES: A COMPARATIVE ANALYSIS OF PRE- AND POST-PANDEMIC CHARACTERISTICS

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Abstract Body

Background: The COVID-19 pandemic has impacted the development and management of chronic conditions, including diabetes. A study in Italy showed that the incidence of newly diagnosed type 2 diabetes (T2D) increased from 4.85‰ person-years before the pandemic (2017-2019) to 12.21‰ person-years during the pandemic (2020-2022). This study aims to evaluate changes in the characteristics of new-onset diabetes in Lebanon before and after the pandemic.

Materials and Methods: A retrospective case-control study was conducted from 2016 to 2023, including 200 subjects with new-onset diabetes (100 before and 100 after the pandemic) from endocrinology clinics. Data were divided into three groups: new-onset diabetes before the pandemic (NBP), after the pandemic with no prior COVID-19 infection (NAPN), and after the pandemic with a prior COVID-19 infection (NAPI). Data collection mainly involved age, weight, BMI (body mass index), diabetes type, COVID-19 infection, coronary artery disease (CAD), family history of diabetes. Univariate and multivariate analyses were performed to assess the data. We obtained patient consent and the *Notre Dame Des Secours* Ethical Committee's approval.

Results: 200 patients were included, with similar mean age, weight, and BMI across the groups. After the pandemic, more cases of autoimmune diabetes were observed. NAPI patients were younger compared to those with diabetes before the pandemic or after pandemic without prior infection. A history of CAD was more common in NAPN, while family history of diabetes was more prevalent in the NBP group. These findings remained significant after adjusting for risk factors.

Conclusions: Patients who developed diabetes after contracting COVID-19 were younger and less likely to have a family history of diabetes compared to those diagnosed before the pandemic or those without prior infection during the pandemic.

Impact Statement: Early diabetes screening and increased awareness of risk factors are crucial in preventing long-term complications of diabetes.

Abstract Category

Epidemiology & Public Health

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THE IMPACT OF DEEP BRAIN STIMULATION ON NEUROGENESIS IN HEALTHY AND DISEASED ANIMAL MODELS: A SYSTEMATIC REVIEW

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Abstract Body

Background: Deep Brain stimulation (DBS) has emerged as a promising treatment for various neurological and psychological disorders, with neurogenesis proposed as a potential mechanism of its therapeutic effects. This systematic review aims to comprehensively assess the impact of DBS on neurogenesis across animal models, with an emphasis on linking these findings to functional and pathological outcomes.

Materials and Methods: PubMed, Scopus, Embase and Web of Science databases were searched in August 2024 for studies evaluating the effect of DBS on neurogenesis in both healthy and diseased animal models. A total of 26 studies were included, divided into 10 studies with healthy models and 16 with diseased models. Neurogenesis was assessed using different markers, such as BrdU, DCX, and NeuN. A random-effects meta-analysis was performed to compare the mean difference in BrdU+ cells between DBS and sham groups in healthy models.

Results: Six samples demonstrated a significant increase in progenitor cells (BrdU+ cells) in the dentate gyrus of healthy rodents following DBS (SMD [95% CI] = 3.4 [0.92;5.89], I^2 = 86%, $p < 0.007$). Similarly, neurogenesis was increased across several disease models, such as Alzheimer's, epilepsy, ischemic stroke, Parkinson's disease, and Rett syndrome. In Parkinson's models, DBS at 130 Hz induced the greatest increase in neurogenesis in both ipsilateral and contralateral subventricular zones and the rostral migratory stream.

Conclusions: This systematic review highlights the positive impact of DBS on neurogenesis in both healthy and diseased animal models. These findings suggest that the enhancement of neurogenesis through DBS may correlate with functional and pathological improvements, offering strong translational potential for future clinical applications.

Impact Statement: This study demonstrates that DBS significantly promotes neurogenesis across various disease models. This finding suggests a potential mechanism underlying its therapeutic effects, offering promising translational implications for future clinical applications.

Abstract Category

Basic Science & Translational

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FETAL AND CONGENITAL MALFORMATIONS: THE EXPERIENCE OF A TERTIARY CARE CENTER IN LEBANON

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Abstract Body

Background: Congenital and fetal anomalies represent a major challenge in resource-limited settings. This is especially the case of tertiary care centers that cater to the needs of the most vulnerable populations. Rafik Hariri University Hospital (RHUH) in Lebanon operates under critical conditions and with limited resources. Indeed, patients referred from various institutions — primarily refugees, migrant workers, and low-income Lebanese individuals — seek health access at RHUH. These vulnerable population groups often lack adequate prenatal follow-up due to financial constraints, which can eventually lead to late presentations of anomalies and malformations.

Materials and Methods: A retrospective cross-sectional study was conducted from 2021 to 2025. Medical records, imaging studies, and clinical evaluations of referred patients were reviewed. Cases were categorized into chromosomal/genetic syndromes, limb malformations, along with other neural tube/gastrointestinal/craniofacial and other structural anomalies. Our qualitative approach was supported by photographic documentation to aid in the classification and diagnosis of these malformations.

Results: Our study identified a high incidence of congenital anomalies among vulnerable population groups in Lebanon. The malformations identified and classified included: genetic syndromes (Trisomy 18/Trisomy 21/Serena/Kabuki syndromes), limb malformations (symbrachydactyly/polydactyly/amniotic band), abdominal wall defects (megabladder/VACTERL association/omphalocele) and vascular/cutaneous lesions (pharyngeal lymphangioma/cutis marmorata/aplasia cutis). Neural tube defects were also prevalent (anencephaly/iniencephaly/encephalocele/closed spina bifida/neurocutaneous melanosis), in addition to other types of malformations. In these cases, the lack of consistent prenatal care contributed to delayed diagnoses.

Conclusions: Our findings underline the urgent need to enhance prenatal screening among high-risk populations in Lebanon. Urgent efforts are needed by public health authorities and stakeholders to address this alarming problem.

Impact Statement: This study emphasizes the need to improve prenatal care services and healthcare infrastructures, particularly in limited-resource settings. These initiatives would improve clinical outcomes and reduce the burden of congenital defects.

Abstract Category

Clinical Research

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EXOGENOUS MELATONIN IN INTENSIVE CARE UNIT (EMIC) STUDY: DOUBLE-BLIND RANDOMIZED CONTROLLED TRIAL

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Abstract Body

Background: Sleep disturbances are highly prevalent among patients admitted to the intensive care unit (ICU). These disturbances are strongly associated with adverse clinical outcomes, including increased rates of delirium, agitation, and other comorbid conditions. We hypothesized that the administration of melatonin could improve sleep characteristics, thus reducing the incidence of these complications.

Objectives: Assess melatonin's effect on sleep characteristics, particularly total sleep time (TST).

Methods: A double-blind randomized controlled trial (NCT03708341; February 2019- December 2023). Patients were randomly allocated to receive either 5 mg of melatonin or a placebo for up to 14 days or until ICU discharge (8 PM). Sleep-related data were collected using an Actiwatch® (Respironics/Philips) and included TST, as the primary outcome, and other sleep parameters.

Results: A total of 132 patients were included in this study: 65 patients in Group A (53.7% men; mean age = 66±19 years) and 67 patients in Group B (55.4% men; mean age = 66±15 years) [unblinding was not performed due to ongoing statistical analyses]. No differences in the baseline clinical and sociodemographic characteristics of patients were noted between both groups. Intent-to-treat analyses showed no statistically significant differences in total sleep time (TST) between the two groups. On day 1, TST was 463 minutes in Group A and 489 minutes in Group B. By day 5, TST increased to 485 minutes in Group A and 650 minutes in Group B (p = 0.36).

Conclusion: While melatonin administration did not significantly improve sleep characteristics in our study, the latter represents a comprehensive and robust evaluation of sleep in a large cohort of ICU patients. The results underscore the need for continued research and novel strategies to address sleep disturbances in the ICU setting.

Abstract Category

Clinical Research

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HPV VACCINATION IN LEBANON: A CROSS-SECTIONAL STUDY ASSESSING THE KNOWLEDGE AND PERCEIVED BARRIERS REGARDING HPV VACCINE

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Abstract Body

Background: Human papillomavirus (HPV) is the most common sexually transmitted infection globally and a leading cause of cervical cancer. The WHO's 90-70-90 initiative aims to eliminate cervical cancer by 2030 through vaccination, screening, and treatment. This study aims to assess HPV-related knowledge and vaccine barriers among young Lebanese adults, as understanding public knowledge and perceived barriers is crucial for improving vaccination rates.

Materials and Methods: A population-based survey targeting a sample of 710 Lebanese individuals consisted of 4 sections in Arabic and English: demographics, the validated HPV Knowledge Questionnaire (HPV-KQ), HPV Vaccine Barriers assessment, and vaccination likelihood.

Results: The mean overall HPV knowledge score was 13.63. Bivariate analysis revealed higher knowledge scores among females ($p = 0.025$), postgraduates compared to full-time students ($p < 0.001$), healthcare professionals and students ($p < 0.001$), participants familiar with the HPV vaccine ($p < 0.001$), and non-parents ($p = 0.006$). Multivariable analysis identified sex ($p < 0.001$), education level ($p = 0.001$), marital status ($p = 0.001$), parental status ($p = 0.001$), occupation ($p = 0.034$), and healthcare-related employment or study ($p < 0.001$) as significant predictors of HPV knowledge. Logistic regression revealed that engagement status (OR = 6.139, $p = 0.008$) and occupation (OR = 0.20, $p = 0.001$) influenced vaccine uptake. HPV knowledge did not significantly increase vaccine uptake ($p = 0.100$). Key barriers to vaccination included safety concerns (37.3%), effectiveness (35.1%), side effects (39.6%), cost (48.5%), and insurance issues (48.3%).

Conclusion: Gaps in HPV knowledge exist among young Lebanese adults, particularly based on sex, education, occupation, and parental status. Barriers to vaccination include safety, effectiveness concerns, and financial challenges.

Impact Statement: This study emphasizes the need for targeted HPV education and addressing vaccine barriers to improve vaccination rates and reduce cervical cancer risk.

Abstract Category

Epidemiology & Public Health

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SLEEP DISTURBANCES IN FAMILIES OF CANCER PATIENTS RECEIVING PALLIATIVE CARE: A HIDDEN BURDEN

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Abstract Body

Background: The emotional and physical well-being of the families of cancer patients receiving palliative care is often overlooked. This study aims to explore the prevalence of key contributing factors such as emotional stress and anxiety, and how they affect the overall sleep and well-being of these families who are fulfilling the role of constant caregivers.

Methods: We used the *Hôtel-Dieu de France* (HDF) database to reach out to families of cancer patients who had received palliative care in the past six months. Thirty caregivers (n = 30) were recruited and compared to a control group of thirty individuals (n = 30) from the general population. All participants completed two validated tools: the Epworth Sleepiness Scale and a Sleep Disorder Questionnaire. The HDF Ethics Committee approved the course of this study.

Results: The analysis showed significant differences between the groups: caregivers experienced more anxiety compared to the control group (39.2% vs. 16.7%), and some of them even stated the need to take sleeping pills in order to fall asleep, such as melatonin. However, the study showed that this group had an Epworth mean score of 7.17 compared to a score of 9.5 in the control group.

Conclusion: The families of palliative care patients experience significantly higher anxiety levels while reporting lower daytime sleepiness compared to the general population. These findings suggest that the emotional and psychological burden of caregiving may contribute to heightened anxiety, potentially overshadowing physical fatigue. Addressing these challenges is crucial for improving caregivers' overall well-being and their ability to provide effective care.

Impact Statement: These results highlight the need for targeted interventions that prioritize mental health support for caregivers in palliative care settings. Integrating psychological counseling and stress management programs into clinical practice can help mitigate anxiety-related distress, ultimately enhancing both caregivers' well-being and patient care quality.

Abstract Category

Clinical Research

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THE 2024 WAR TRAUMA'S EFFECT ON MEMORY, ATTENTION, EMOTIONAL REGULATION, AND AGGRESSION IN LEBANESE CIVILIANS

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Abstract Body

Background: After the 2024 war on Lebanon occured, many questions arose as to how and in what way this war affected Lebanese civilians. This study aimed to gain insights into the effect of such trauma on memory, attention (mindful awareness), emotional regulation (cognitive reappraisal and expressive suppression), and aggression in Lebanese civilians.

Methods: This cross-sectional study was conducted using an online survey containing the socio-demographic questions, War Trauma Exposure Scale, Everyday Memory Questionnaire (EMQ-R), Mindful Attention Awareness Scale (MAAS), Emotion Regulation Questionnaire (ERQ), and Buss-Perry Aggression Questionnaire (BPAQ). The total sample included 524 adults from various Lebanese areas. Institutional Review Board (IRB) was received (Ref. Number: 3/2025).

Results: The study had a total of 524 participants, 58.8% females, with a mean age of 26.2 years (SD = 9.5). Higher trauma exposure was found to be associated with more frequent memory lapses ($B = 0.255$, $p < 0.05$), decreased mindfulness attention awareness (MAA) ($B = -0.029$, $p < 0.05$), increased cognitive reappraisal ($B = 0.080$, $p < 0.05$) as well as expressive suppression ($B = 0.046$, $p < 0.05$). War trauma also had a significant positive impact on aggression ($B = 0.345$, $p < 0.05$). Divorced individuals demonstrated a reduction in MAA and fewer issues with memory. Individuals with higher levels of education had a decrease in MAA, but fewer memory lapses and less aggression.

Conclusion: The 2024 war had a profound impact on Lebanese civilians across several demographics and variables; War trauma is significantly correlated with impairments in memory and concentration, and with emotional dysregulation and aggression.

Impact Statement: This study demonstrates the profound impact of war trauma on executive functions, urging the need for clinical interventions targeting these aspects, especially in susceptible individuals. Enriching the literature body on the complex symptomatology of war trauma can help broaden the understanding of the clinical presentation for better therapeutics.

Abstract Category

Epidemiology & Public Health

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COMPARATIVE ANALYSIS OF 2 VALIDATED FERTILITY KNOWLEDGE SCORES: ARTIFICIAL INTELLIGENCE PLATFORMS VS. LEBANESE MEDICAL STUDENTS

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Abstract Body

Fertility knowledge is a critical component of reproductive health, influencing family planning, infertility awareness, and early interventions. Despite its importance, gaps in fertility awareness persist among the general population and healthcare professionals. Medical students, as future healthcare providers, play a key role in patient education, yet their understanding of fertility-related topics varies based on their educational stage, exposure to specialized training, and use of AI tools. The integration of AI through advanced platforms like ChatGPT, Gemini, Claude, and DeepSeek has demonstrated robust capabilities in processing complex medical information. This study compares the performance of AI models to Lebanese medical students using two validated fertility knowledge assessments: the Fertility Information and Treatment Knowledge Score (FIT-KS) and the Cardiff Fertility Knowledge Score (CFK).

A cross-sectional study was conducted between January and November 2024, involving AI models (Claude 3.5, Mistral Large, DeepSeek, Gemini 1.5, ChatGPT 4.0, and ChatGPT 4.0 Mini) and medical students from eight Lebanese universities. Data were collected via Google Forms and analyzed statistically after IRB approval from Al Hayat Hospital's Ethical Committee. Results revealed that AI models significantly outperformed medical students in both FIT-KS (AI: 26.66 ± 0.81 vs. students: 17.9 ± 3.3; p = 0.0001) and CFK (AI: 12.66 ± 0.51 vs. students: 8.79 ± 2.09; p = 0.0001). ChatGPT 4.0 achieved the highest FIT-KS score (28), while multiple AI models scored 13 in CFK. Among medical students, CFK performance improved with advancing years of study and prior ChatGPT use, though these factors did not significantly impact FIT-KS scores.

The findings highlight AI's superior fertility knowledge and its potential as an educational tool. Medical students' CFK scores improved with higher academic levels and AI exposure, highlighting AI's role in enhancing fertility education. This study advocates for the strategic use of AI-based tools to bridge gaps in fertility knowledge among future healthcare providers.

Abstract Category

Epidemiology & Public Health

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AI CHATBOTS IN FEMALE HEALTH: PERCEPTIONS AND USE AMONG LEBANESE UNIVERSITY STUDENTS

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Abstract Body

Background: Economic hardship and cultural stigma in Lebanon limit access to gynecological care, causing many young women to avoid medical consultation due to financial constraints and fear of judgment. AI-powered chatbots like ChatGPT offer instant, anonymous, and free health guidance, potentially transforming healthcare-seeking behaviors. Nevertheless, concerns regarding accuracy, privacy, and medical oversight persist. This study examines Lebanese university students' perceptions of ChatGPT as a "friendly pocket gynecologist," focusing on stigma reduction, financial constraints, and trust in AI-driven advice.

Materials and Methods: A cross-sectional online survey, using snowball sampling, recruited Lebanese university students. The questionnaire collected sociodemographic data, frequency of AI reliance for health inquiries, trust levels (scale 1–10), attitudes toward AI for intimate health issues, stigma, privacy concerns, and impacts on self-treatment and doctor visits. Statistical analyses identified factors associated with AI reliance for gynecological concerns.

Results: Among 438 female participants (mean age = 21.8 ± 3.1 years), AI chatbot use for health inquiries was common (71.9%), driven by convenience (71.9%), embarrassment (45.9%), financial issues (42.5%), fear of judgment (34.7%), and healthcare inaccessibility (26.7%). Frequent inquiries included menstrual issues (43.6%), polycystic ovary syndrome (33.3%), and vaginal infections (23.5%). Multivariate analysis showed that skipped doctor visits (OR = 6.34, $p < 0.001$) and high trust in AI (OR = 1.82, $p = 0.009$) significantly predicted AI reliance, whereas private insurance reduced reliance (OR = 0.57, $p = 0.029$).

Conclusions: ChatGPT provides Lebanese university students with accessible, stigma-free gynecological guidance. While valuable as a complementary support, concerns about accuracy, privacy, and oversight remain. Further research should optimize AI integration responsibly to enhance women's health outcomes, reduce healthcare disparities, and inform policy and education initiatives.

Impact Statement: This study emphasizes ChatGPT's potential to mitigate barriers to gynecological healthcare among Lebanese female university students by reducing stigma, financial burden, and healthcare access disparities.

Abstract Category

Epidemiology & Public Health

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THYROID IMMUNE-RELATED ADVERSE EVENTS FOLLOWING IMMUNE CHECKPOINT INHIBITION TREATMENT IN CANCER PATIENTS: A RETROSPECTIVE COHORT STUDY

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Abstract Body

Background: Immune checkpoint inhibitors (ICI) represent a major advancement in the field of immuno-oncology, revolutionizing the treatment of various types of cancer. As their use continues to grow, further research into their adverse effects is crucial. Thyroid immune-related adverse events (irAEs) are common yet often underdiagnosed, with variable presentations and severity. A better characterization of these disorders would help improve management and optimize treatment outcomes.

Materials and Methods: This is a retrospective observational study that included patients treated with ICIs at *Hôtel-Dieu de France*, regardless of cancer type, disease stage, or the specific agent used. Data were collected from medical records and included patient demographic characteristics, disease-related characteristics, and information on thyroid irAEs. A descriptive and statistical analysis of all data was conducted, focusing on a detailed study of thyroid-related complications.

Results: A total of 120 patients were included in the study, with 26 experiencing irAEs. 14 cases of hypothyroidism were reported, along with 12 cases of thyrotoxicosis (some followed by hypothyroidism). Cases of thyrotoxicosis had an earlier onset compared to cases of hypothyroidism. Young age, female sex, and combination therapy protocols appeared to favor the development of immune-mediated thyroid side effects. Combination therapy was also associated with a shorter onset time for these effects.

Conclusions: The prevalence of thyroid disorders in our study population was estimated at 21%, likely underestimated. These conditions did not appear to necessitate the discontinuation of ICI treatment. They were manageable with symptomatic treatment during the thyrotoxic phase and hormone replacement therapy in the hypothyroid stage. Regular monitoring and early detection remain essential.

Impact Statement: Several potential risk factors have been identified, which may help better categorize at-risk populations.

Abstract Category

Clinical Research

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END OF PANDEMIC PARENTAL HESITANCY TOWARD PEDIATRIC COVID-19 VACCINATION IN LEBANON

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Abstract Body

Background: This observational prospective, cross-sectional study assessed parental hesitancy toward pediatric COVID-19 vaccination during the final four months of the pandemic, comparing findings to earlier studies that reported high hesitancy levels globally.

Materials and Methods: Parents were surveyed from January, 4 until May 16, 2023, at two tertiary medical centers in Beirut, the American University of Beirut Medical Center (AUBMC) and the Saint George Hospital University Medical Center (SGHUMC).

Results: The study enrolled 950 participants, predominantly mothers (79.6%) aged 30-49 (79%), with highly educated parents (69.8% of mothers and 62.2% of fathers were university graduates). Although routine childhood vaccinations received remarkable acceptance (98.3%), there was considerable hesitancy toward pediatric COVID-19 vaccination (56.4%). Only 9.4% had vaccinated all eligible children. The main parental concern was the vaccine's safety and perceived lack of testing ($p < 0.001$). Other factors were parental gender, vaccination status, and children's age. In the adjusted model, mothers had a higher rate of vaccine acceptance (AOR: 1.746 [1.059-2.878], $p = 0.029$). Similarly, parents vaccinated against COVID-19 vaccine (AOR: 2.703, $p < 0.001$) and parents of children aged 12-17 (AOR: 4.450, $p < 0.001$) had greater vaccine acceptance.

Conclusion: This study's findings indicate a persistently high level of hesitancy for pediatric COVID-19 vaccination despite more than two years of positive global experience with the vaccine. Efforts to improve awareness and address safety concerns are crucial to increasing uptake and safeguarding children's health.

Impact Statement: This study highlights the need for targeted educational initiatives to address parental hesitancy and promote pediatric COVID-19 vaccination as a public health priority.

Abstract Category

Epidemiology & Public Health

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AI CHATBOTS IN MALE HEALTH: PERCEPTIONS AND USE AMONG LEBANESE UNIVERSITY STUDENTS

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Abstract Body

Introduction: In Lebanon, economic hardship and cultural stigma limit access to urological healthcare, particularly among young adults who avoid seeking medical advice due to financial constraints and fear of judgment. AI-powered chatbots like ChatGPT provide anonymous, instant, and free medical guidance, potentially reshaping healthcare-seeking behaviors among university students. Yet, concerns about accuracy, privacy, and medical oversight remain. This study explores Lebanese students' perceptions of ChatGPT as a "friendly pocket urologist," emphasizing stigma reduction, financial barriers, and trust in AI-driven health advice.

Methods: A cross-sectional online survey, using snowball sampling, recruited university students across Lebanon. The survey assessed sociodemographic data, type and frequency of use, trust levels (1–10 scale) in AI-driven chatbots for health inquiries, and students' perceptions regarding stigma, privacy, and factors influencing reliance on these chatbots.

Results: Of 250 male students (mean age = 22.4 ± 3.2 years), most were single (91.6%), with 51.6% studying healthcare-related fields. AI chatbot usage for health concerns was prevalent (68.8%), with moderate trust (mean = 5.6/10). Commonly addressed concerns included erectile dysfunction (23.6%), premature ejaculation (21.6%), sexually transmitted infections (18.4%), and testicular issues (17.6%). Choosing AI as a primary medical advice source (OR = 3.08, $p < 0.001$) and high AI trust (OR = 1.64, $p = 0.042$) predicted intimate AI use. Convenience (71.2%) and embarrassment avoidance (48.6%) motivated AI reliance, whereas accuracy concerns (69.3%) and the need for physical examinations (68.9%) were significant barriers.

Conclusions: ChatGPT offers Lebanese students accessible, stigma-free urological guidance, although accuracy, privacy, and the need for professional oversight remain concerns. Further research should optimize ethical and safe AI integration.

Impact Statement: This study highlights ChatGPT's potential to mitigate stigma and financial barriers, enhancing timely healthcare-seeking behaviors among young Lebanese men, while emphasizing the importance of addressing accuracy and clinical oversight limitations.

Abstract Category

Epidemiology & Public Health

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MATERNAL NEAR-MISS CASES AT A LEBANESE UNIVERSITY PUBLIC HOSPITAL: A RETROSPECTIVE ANALYSIS OF RISK FACTORS AND OUTCOMES

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Abstract Body

Background: Maternal near-miss events - where women survive life-threatening pregnancy complications - are critical indicators of the quality of obstetric care. This study analyzes risk factors, management, and outcomes of near-miss cases at a Lebanese university public hospital. It particularly sheds light on differences between second and third-trimester occurrences. Methodology: A retrospective cross-sectional study was conducted on 42 obstetric near-miss cases out of 3,116 deliveries. Demographic, obstetric, clinical, and neonatal data were extracted from medical records. Statistical analysis was performed using SPSS v.26 and statistical comparisons between second- and third-trimester cases were performed using Chi-square, Fisher's exact, and Mann-Whitney U tests. Statistical significance was noted at $p<0.05$.

Results: Among the identified maternal near-miss cases, 40.5% occurred in the second trimester and 59.5% in the third trimester. Cesarean-section was the predominant mode of delivery (69.0%), with a significantly higher proportion in second-trimester cases (100%) compared to third-trimester cases (48%)($p=0.002$). Blood transfusions were more frequently required in third-trimester cases (84.0%) than in second-trimester cases (52.9%, $p=0.041$), which reflects greater obstetric hemorrhage-related morbidity. Maternal mortality occurred in 7.1% of cases. Severe postpartum hemorrhage was observed in 38.1% of cases, occurring more frequently in the third trimester (44.0%) than in the second trimester (29.4%). Moreover, while severe pre-eclampsia was diagnosed in 26.2% of cases; the latter had a higher prevalence in the second trimester (41.2%) compared to the third trimester (16.0%)($p=0.086$). Additionally, HELLP syndrome affected 19.0% of cases, while sepsis was reported in 9.5% of cases. Uterine rupture was identified in 4.8% of the cases, exclusively in the third trimester.

Conclusion: Maternal near-miss cases are associated with severe obstetric complications, particularly preterm delivery, increased need for blood transfusions, and high neonatal morbidity.

Impact Statement: This study emphasizes the importance of early detection to reduce maternal and neonatal mortality and morbidity.

Abstract Category

Clinical Research

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KNOWLEDGE AND STIGMATIZING ATTITUDES TOWARDS EATING DISORDERS IN LEBANON

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Abstract Body

Background: Eating Disorders (ED) are conditions that impact both the physical and mental health of individuals, with treatment often hindered by stigma and a lack of mental health literacy regarding EDs among the general population. This study aims to assess the level of stigma associated with EDs and its relationship with ED mental health literacy in Lebanon, as well as the sociodemographic factors influencing these perceptions.

Materials and Methods: A cross- sectional study was conducted (Nov 2024–Jan 2025) via an online questionnaire with 594 Lebanese participants. Data included sociodemographics, an ED mental health literacy scale (ED-MHL), and an ED stigma scale (EDSS). Bivariate analysis and multiple linear regression identified stigma-related factors.

Results: ED mental health literacy was moderate (10.63/18), while stigma was low to moderate (39.16/100). A moderate negative correlation was found between literacy and stigma (rho = -0.410, $p < 0.001$). Higher stigma levels were observed among men (B = 5.036; $p < 0.001$), older individuals (B = 0.372; $p < 0.001$), residents of North (B = 5.428; p = 0.016) and South Lebanon (B = 6.636; p = 0.019), those without a diploma (B = 11.574; p = 0.011), and professionals in technology (B = 8.531; p = 0.008), commerce (B = 5.031; p = 0.047), and healthcare (B = 6.083; p = 0.007). Individuals with ED knowledge had lower stigma (B = -0.987; p< 0.001).

Conclusion: Low ED mental health literacy and certain sociodemographic variable increases stigma in Lebanon. Targeted awareness campaigns are needed to improve the perception of these disorders and promote access to care.

Impact Statement: Improving ED literacy can reduce stigma and support better public health strategies.

Abstract Category

Clinical Research

FRON ABSTRACTS

ABSTRACT 1:

FROM RESISTANCE TO RESPONSE: PTPRD CO-MUTATION UNLOCKS IMMUNOTHERAPY SENSITIVITY IN ONCOGENE-ADDICTED NSCLC

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Immune checkpoint inhibitors (ICIs) have improved outcomes in non-small cell lung cancer (NSCLC), yet patients with oncogene-driven tumors (EGFR, ALK, ROS1, MET, RET, BRAF) often show resistance. We aimed to identify co-mutations that may predict ICI benefit in this population.

Methods: We analyzed 2,666 NSCLC patients treated with ICIs from the MSK-CHORD cohort, including 793 with oncogenic driver mutations. A Cox proportional-hazards model assessed the prognostic impact of co-mutations occurring in ≥ 10% of oncogene-addicted cases. Tumor mutational burden (TMB) and overall survival (OS) were used as markers of ICI efficacy.

Results: PTPRD was the only co-mutation significantly associated with improved OS (HR 0.598, 95% CI 0.00–0.79) in oncogene-driven NSCLC. PTPRD co-mutation was observed in EGFR (7%), ALK (26%), ROS1 (18%), MET (13%), RET (26%), and BRAF (12%) tumors. TMB was significantly higher in PTPRD-co-mutated subgroups ($p < 0.001$), except in BRAF-mutant cases. OS analysis showed benefit for PTPRD-co-mutated patients in EGFR and MET subtypes and in comparison, to the general ICI-treated NSCLC cohort. Outcomes were comparable between PTPRD-co-mutated ICI-treated patients and EGFR/ALK TKI-treated patients. Similar trends were seen in KRAS and NTRK-driven tumors.

Conclusions: PTPRD is a recurrent co-mutation that may confer ICI sensitivity in oncogene-addicted NSCLC. Its association with elevated TMB and improved survival across multiple driver mutations highlights PTPRD as a potential predictive biomarker for immunotherapy benefit in this resistant population.

Abstract - French:

Objectifs : Les inhibiteurs de points de contrôle immunitaire (ICIs) ont amélioré les résultats du cancer du poumon non à petites cellules (CPNPC), mais les patients avec des tumeurs à oncogène conducteur (EGFR, ALK, etc.) présentent souvent une résistance. Notre objectif était d'identifier les co-mutations pouvant prédire le bénéfice des ICIs dans cette population.

Méthodes : Nous avons analysé 2 666 patients atteints de CPNPC traités par ICIs, dont 793 avec des mutations de gènes conducteurs. Un modèle de Cox a évalué l'impact pronostique des co-mutations présentes chez ≥ 10 % des cas. La charge mutationnelle tumorale (TMB) et la survie globale (SG) ont servi de marqueurs d'efficacité.

Résultats : PTPRD a été la seule co-mutation significativement associée à une amélioration de la survie globale (SG) (HR 0.598, IC 95 % 0.00–0.79) dans le CPNPC à gène conducteur. Cette co-mutation a été observée dans les tumeurs EGFR (7 %), ALK (26 %), ROS1 (18 %), MET (13 %), RET (26 %) et BRAF (12 %). La TMB était significativement plus élevée dans les sous-groupes avec co-mutation PTPRD ($p < 0.001$), sauf dans les cas mutants BRAF. L'analyse de l'SG a montré un bénéfice pour les patients co-mutés PTPRD dans les sous-types EGFR et MET, avec des résultats comparables à ceux des patients traités par TKI EGFR/ALK.

Conclusions : PTPRD est une co-mutation récurrente qui pourrait conférer une sensibilité aux ICIs dans le CPNPC à gène conducteur. Son association avec une TMB élevée et une survie améliorée souligne PTPRD comme un biomarqueur prédictif potentiel du bénéfice de l'immunothérapie dans cette population résistante.

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ABSTRACT 2:

NEOADJUVANT THERAPY IN NON-METASTATIC BREAST CANCER IN KURDISTAN, IRAQ

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Background: Breast cancer is the most common cancer among women. Inoperable breast adenocarcinoma without distant metastases is known as locally advanced breast cancer (LABC). A comprehensive approach is required for patients with LABC. The main management involves surgical removal of the tumor, either by breast-conserving surgery (BCS) or mastectomy. Neoadjuvant chemotherapy has been the standard treatment for LABC to downstage the tumor or to convert from mastectomy to BCS. The purpose of this study was to compare the Kurdistan region of Iraq's non-metastatic breast cancer treatment strategy with the most recent international cancer treatment standards.

Methods: We retrospectively reviewed the records of 1,000 eligible patients who underwent either BCS or mastectomy for non-metastatic invasive breast cancer at oncology centers in Kurdistan between 2016 and 2021.

Results: Out of the 1,000 patients, 39.8% received BCS and 60.2% underwent mastectomy. From 8.3% of patients treated with neoadjuvant therapy in 2016 to 14.2% in 2021, the percentage of patients receiving neoadjuvant chemotherapy has increased over time. BCS increased from 36.3% in 2016 to 43.7% in 2021 in the same manner.

Conclusion(s): International standards are followed by the growing trends of BCS practice in LABC and the current surge in neoadjuvant chemotherapy use in Kurdistan. In order to provide high-quality, patient-centric breast cancer care, our study highlights the urgent need to implement and promote more conservative surgical approaches, enhanced by the wider use of neoadjuvant chemotherapy, through patient and healthcare provider education and information programs, within the framework of multidisciplinary team discussions.

Abstract - French: N/A

References: N/A

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ABSTRACT 3:

NEOADJUVANT RADIOTHERAPY PROTOCOL USING LATTICE-VMAT IN THE TREATMENT OF SOFT TISSUE SARCOMAS

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Background: Soft tissue sarcomas are rare, heterogeneous tumors, often diagnosed at advanced stages with large, high-grade lesions. Preoperative radiotherapy (RT) achieves local control comparable to postoperative RT, with smaller treatment volumes and reduced late toxicity. Pathologic tumor necrosis after neoadjuvant therapy is a potential prognostic factor, with higher necrosis rates linked to improved control and survival. Lattice-VMAT is a modern spatially fractionated technique delivering ablative intratumoral doses while sparing adjacent tissues, potentially increasing necrosis without adding perioperative morbidity.

Objective: To determine the rate of pathologic tumor necrosis induced by neoadjuvant Lattice-VMAT in large, high-grade soft tissue sarcomas and assess its association with oncologic outcomes.

Methods: This single-institution retrospective cohort includes patients ≥ 18 years, ECOG 0-1, with primary high-grade soft tissue sarcomas > 5 cm in extremities, hip, shoulder, or retroperitoneum, without distant metastases. The protocol comprised conventional RT (50 Gy/25 fractions), replacing one weekly fraction with Lattice (12 Gy to intratumoral vertices). Collected variables include tumor necrosis percentage, surgical margins, local control, disease-free survival (DFS), overall survival (OS), and acute/late toxicity (CTCAE v5.0). Survival analysis used Kaplan–Meier and Cox regression.

Results: Data collection and analysis are ongoing. It is anticipated that Lattice-VMAT will yield higher necrosis rates than historical neoadjuvant RT protocols, with potential correlation with improved DFS and OS.

Conclusion: Lattice-VMAT may serve as an effective neoadjuvant intensification strategy for bulky, high-grade sarcomas, aiming to enhance tumor response while preserving surgical feasibility and maintaining acceptable toxicity.

Abstract - French:

Contexte : Les sarcomes des tissus mous sont rares, souvent diagnostiqués à un stade avancé avec des lésions volumineuses et de haut grade. La radiothérapie (RT) préopératoire offre un contrôle local équivalent à la RT postopératoire, avec moins de toxicité tardive. La nécrose pathologique induite par traitement néoadjuvant est un facteur pronostique potentiel. La Lattice-VMAT délivre des doses ablatives intratumorales tout en épargnant les tissus adjacents, pouvant accroître la nécrose sans augmenter la morbidité.

Objectif : Évaluer le taux de nécrose pathologique induit par Lattice-VMAT et son association avec les résultats oncologiques.

Méthodes : Cohorte rétrospective monocentrique incluant des patients ≥ 18 ans, ECOG 0–1, atteints de sarcomes primitifs de haut grade > 5 cm aux extrémités, hanche, épaule ou rétropéritoine, sans métastases. Protocole : RT conventionnelle (50 Gy/25 fractions) avec remplacement hebdomadaire d'une fraction par Lattice (12 Gy aux sommets intratumoraux). Variables : nécrose (%), marges chirurgicales, contrôle local, survie sans maladie (DFS), survie globale (SG), toxicité (CTCAE v5.0). Analyses : Kaplan–Meier et régression de Cox.

Résultats : Analyse en cours. On s'attend à des taux de nécrose supérieurs aux protocoles historiques, avec possible corrélation à une meilleure DFS et SG.

Conclusion : La Lattice-VMAT pourrait constituer une stratégie néoadjuvante innovante et efficace pour les sarcomes volumineux de haut grade, conciliant réponse tumorale, faisabilité chirurgicale et toxicité acceptable.

Mots-clés : sarcome, Lattice-VMAT, radiothérapie néoadjuvante, nécrose tumorale.

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ABSTRACT 4:

REFERRAL PATTERNS OF MULTIPLE MYELOMA PATIENTS: A REAL-WORLD STUDY FROM *HÔTEL-DIEU DE FRANCE* UNIVERSITY MEDICAL CENTER

Categories: 2- Clinical Research in Hematology

Abstract - English:

Objectives: Multiple myeloma is the second most common hematologic malignancy, presenting with a broad spectrum of symptoms that may initially be assessed by various medical specialties. Understanding referral patterns is crucial to improving early diagnosis and multidisciplinary care.

This retrospective study aimed to identify the medical specialties most frequently initiating referrals of newly diagnosed multiple myeloma patients to hematology-oncology.

Methods: We reviewed the records of adult patients diagnosed with multiple myeloma at *Hôtel-Dieu de France* University Medical Center between 2013 and 2024. Data were retrieved from hospital electronic medical records and outpatient clinic files. Variables collected included age at diagnosis, sex, myeloma subtype, presenting symptoms, prognostic factors, referral specialty, treatment type, and survival. Referral patterns were analyzed in correlation with demographic characteristics, symptoms, stage and prognosis.

Results: A total of 144 patients (85 males, 59 females) were included over the 12-year study period. Median age at diagnosis was 68 years for males and 64 years for females. Orthopedic surgeons accounted for the highest proportion of referrals (16.7%), followed by nephrologists (15.28%), cardiologists (8.33%), and rheumatologists (7.64%). Additional correlations between referral patterns and clinical and demographic features are currently under analysis.

Conclusion: Multiple myeloma diagnosis frequently originates from non-hematology specialties, most often orthopedics, reflecting the disease's heterogeneous presentation. This is the first report in the literature to demonstrate that multiple myeloma is most often diagnosed through multidisciplinary pathways, underscoring the pivotal role of inter-specialty collaboration and vigilance in timely detection.

Abstract - French:

Objectifs : Le myélome multiple est la deuxième hémopathie maligne la plus fréquente, se présentant par des symptômes variés explorés initialement par différentes spécialités médicales. L'étude des modèles de référencement est essentielle pour optimiser le diagnostic précoce et la prise en charge multidisciplinaire. Cette étude rétrospective visait à identifier les spécialités médicales adressant le plus souvent les patients nouvellement diagnostiqués avec un myélome multiple vers l'hémato-oncologie.

Méthodes : Nous avons analysé les dossiers de patients adultes diagnostiqués avec un myélome multiple à l'Hôtel-Dieu de France entre 2013 et 2024. Les données provenaient des dossiers hospitaliers électroniques et de consultations externes. Les variables collectées incluaient : âge au diagnostic, sexe, sous-type de myélome, symptômes initiaux, facteurs pronostiques, spécialité de référencement, type de traitement et survie. Les modèles de référencement ont été étudiés en corrélation avec les caractéristiques démographiques, cliniques et pronostiques.

Résultats : Au total, 144 patients (85 hommes, 59 femmes) ont été inclus sur 12 ans. L'âge médian au diagnostic était de 68 ans chez les hommes et de 64 ans chez les femmes. Les chirurgiens orthopédistes représentaient la proportion la plus élevée de référents (16,7 %), suivis des néphrologues (15,28 %), des cardiologues (8,33 %) et des rhumatologues (7,64 %). Des corrélations supplémentaires entre caractéristiques cliniques et modèles de référencement sont en cours d'analyse.

Conclusion : Le diagnostic du myélome multiple émane fréquemment de spécialités non hématologiques, en particulier l'orthopédie, soulignant l'hétérogénéité clinique de la maladie. Ce travail, premier du genre, met en évidence l'importance d'une vigilance et d›une collaboration interdisciplinaire pour un diagnostic précoce et une prise en charge optimale.

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ABSTRACT 5:

AWARENESS OF LUNG CANCER SCREENING AMONG LEBANESE SMOKERS – PRELIMINARY RESULTS

Categories: 2- Basic Research

Abstract - English:

- Lung cancer is the second most commonly diagnosed malignancy in both sexes combined[1]. In most cases, it becomes clinically apparent only at an advanced stage[2]; consequently, over 75% of lung cancers are diagnosed at a late stage[3]. Early detection therefore represents a major opportunity to improve survival outcomes[4]. According to the American Cancer Society, annual low-dose computed tomography (LDCT) screening is recommended for individuals aged 50-80 years who are current or former smokers[5]. The primary aim of this study is to assess awareness of lung cancer screening among Lebanese smokers.

- Eligible participants were Lebanese nationals aged over 40 years, who were either current or former smokers. Recruitment was conducted via a 15-item questionnaire available both online and in paper format, targeting 200

individuals. The survey collected data on socioeconomic status, smoking status (current vs former), awareness of screening, previous participation in screening, and reasons for participation or non-participation.

- To date, 103 individuals have been enrolled, of whom only 51 met the eligibility criteria. Of these, 70% had never heard of LDCT screening for lung cancer and 90% had never undergone the test.

- Awareness of lung cancer screening is markedly lower than anticipated. However, expanded recruitment is required to obtain statistically significant findings.

Abstract - French:

- Le cancer pulmonaire est la deuxième tumeur maligne la plus fréquemment diagnostiquée chez les deux sexes confondus [1]. Dans la majorité des cas, il ne devient cliniquement apparent qu'à un stade avancé [2] ; par conséquent, plus de 75 % des cancers pulmonaires sont diagnostiqués à un stade tardif [3]. La détection précoce représente donc une opportunité majeure pour améliorer les taux de survie [4]. Selon l'American Cancer Society, un dépistage annuel par tomodensitométrie à faible dose (TDMFD) est recommandé chez les personnes âgées de 50 à 80 ans, fumeurs actifs ou anciens fumeurs [5]. Le principal objectif de cette étude est d'évaluer la sensibilisation au dépistage du cancer du poumon chez les fumeurs libanais.

- Les participants éligibles étaient des ressortissants libanais âgés de plus de 40 ans, fumeurs actifs ou anciens. Le recrutement a été réalisé au moyen d'un questionnaire de 15 questions, disponible en ligne et en format papier, ciblant 200 individus. Le questionnaire recueillait des données relatives au statut socio-économique, au statut tabagique (actif vs ancien), à la connaissance du dépistage, à la participation éventuelle à ce dépistage et aux raisons motivant la participation ou la non-participation.

- À ce jour, 103 personnes ont été incluses, dont seulement 51 remplissaient les critères d'éligibilité. Parmi celles-ci, 70 % n'avaient jamais entendu parler du dépistage par TDMFD du cancer pulmonaire et 90 % ne l'avaient jamais réalisé.

- La sensibilisation au dépistage du cancer du poumon est nettement inférieure à nos attentes. Toutefois, un élargissement du recrutement est nécessaire pour obtenir des résultats statistiquement significatifs.

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ABSTRACT 6:

BEYOND BRCA: KMT2 GENE FAMILY AS PREDICTIVE BIOMARKERS FOR PARP INHIBITORS IN BREAST CANCER

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: There remains a need for better biomarkers to optimize PARP inhibitor (PARPi) use: current markers are limited, leaving non-responders and many with resistance. BRCA1/2 and homologous recombination deficiency (HRD) do not capture all sensitive patients. Strategies are needed to predict response, flag early resistance, and guide therapy. Given converging preclinical evidence implicating the KMT2 histone-methyltransferase family (KMT2A/B/C/D) in DNA-damage repair and PARPi sensitivity, we investigated KMT2 as a candidate biomarker.

Methods: We retrospectively interrogated the MSK-CHORD clinicogenomic dataset for breast (n = 173), prostate (n = 216), and pancreatic (n = 110) cancers treated with olaparib, rucaparib, talazoparib, or niraparib. Tumors underwent MSK-IMPACT profiling. Overall survival (OS) from PARPi start was compared between KMT2-mutated and wild-type tumors using Cox models; pooled KMT2A–D and a prespecified KMT2A/C/D subset were evaluated.

Results: KMT2 mutations occurred in 18.4% (breast), 22.2% (prostate), and 14.5% (pancreas). In breast cancer, KMT2A-D mutations were associated with longer OS versus KMT2-wild-type (HR 0.583, 95% CI 0.365-0.932; p = 0.05), and the effect strengthened when restricted to KMT2A/C/D (HR 0.518, 95% CI 0.322-0.834; p = 0.02). No significant OS difference was observed in prostate or pancreatic cohorts. Compared with BRCA1/2-mutant breast cancers on PARPi, KMT2-mutant cases showed a non-significant trend toward longer OS (HR 0.508, 95% CI 0.245-1.053; p = 0.08).

Conclusions: KMT2 alterations predict improved OS with PARPi in breast — but not prostate or pancreatic — cancer. These real-world findings nominate KMT2 as a potential predictive biomarker warranting prospective validation and consideration for future HRR biomarker panels.

Abstract - French:

Objectif : Les biomarqueurs actuels des inhibiteurs de PARP (PARPi)— BRCA1/2 et HRD — restent insuffisants : une part de patients ne répond pas ou développe une résistance. Pour mieux prédire la réponse, détecter précocement la résistance et guider la prise en charge, nous avons étudié la famille KMT2 (KMT2A/B/C/D), suggérée par des données précliniques.

Méthodes : Analyse rétrospective de MSK-CHORD incluant des cancers du sein (n = 173), de la prostate (n = 216) et du pancréas (n = 110) traités par olaparib, rucaparib, talazoparib ou niraparib, avec profilage MSK-IMPACT. La survie globale (SG) depuis l'initiation du PARPi est comparée entre tumeurs KMT2 mutées et non mutées par modèles de Cox (analyses groupées KMT2A–D et sous-ensemble KMT2A/C/D).

Résultats : Les mutations KMT2 sont présentes dans 18,4 % (sein), 22,2 % (prostate) et 14,5 % (pancréas). Dans le sein, les mutations KMT2A-D étaient associées à une SG plus longue vs sauvage (HR 0,583 ; IC95 % 0,365-0,932 ; p = 0,05), avec un effet plus marqué pour KMT2A/C/D (HR 0,518 ; IC95 % 0,322-0,834 ; p = 0,02). Aucune différence significative n'a été observée dans la prostate ou le pancréas. Comparées aux tumeurs BRCA1/2 mutées sous PARPi, les tumeurs KMT2 mutées montraient une tendance non significative à une meilleure SG (HR 0,508 ; IC95 % 0,245-1,053 ; p = 0,08).

Conclusion : Les altérations KMT2 prédisent une meilleure SG sous PARPi dans le cancer du sein, mais pas dans la prostate ou le pancréas. KMT2 est un biomarqueur prédictif potentiel à valider prospectivement et à considérer pour de futurs panels de réparation de l'ADN/HRR.

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ABSTRACT 7:

PALLIATIVE CARE INTERVENTION IN ONCOLOGY: A PROSPECTIVE STUDY BASED ON THE PALLIA-10 SCORING TOOL

Categories: 3- Basic Research

Abstract - English:

Objectives: To evaluate the proportion of in-patients with a PALLIA-10 score at the oncology floor of *Hôtel Dieu de France* (HDF) University Medical Center who may benefit from palliative care (PC) intervention, assessing the impact of early PC on patients' outcomes such as quality of life, pain control and survival. (1,2)

Methods: It is a prospective observational study of hospitalized adult patients in the oncology department of HDF with a confirmed diagnosis of incurable cancer. Excluded are patients admitted to the one-day hospital and those admitted solely for their chemotherapy sessions. The PALLIA-10 tool is a ten-item scale created by the French Society for Palliative Support and Care (SFAP), designed to be easily used by any care provider to detect patients in their early disease progression who may benefit from PC referral. Data are collected from the hospital's electronic medical record system (Dxcare) starting on the first of September for a consecutive 6-month period.

Results: Patients rated as having a PALLIA-10 score > 3 and meeting criteria for PC referral will be reported. Early integration of PC through PALLIA-10 and its positive impact will be also assessed.

Abstract - French:

Objectifs : Évaluer la proportion de patients hospitalisés avec un score PALLIA-10 dans le service d'oncologie de l'Hôtel-Dieu de France (HDF) susceptibles de bénéficier d'une intervention en soins palliatifs (SP), en analysant l'impact d'une intégration précoce des SP sur les issues cliniques telles que la qualité de vie, le contrôle de la douleur et la survie (1,2).

Méthodes : Il s'agit d'une étude observationnelle prospective menée auprès de patients adultes hospitalisés au département d'oncologie de l'HDF, avec un diagnostic confirmé de cancer incurable. Sont exclus les patients admis en hôpital de jour ainsi que ceux hospitalisés uniquement pour leurs séances de chimiothérapie. L'outil PALLIA-10 est une échelle en dix-items créée par la Société Française d'Accompagnement et de Soins Palliatifs (SFAP), conçue pour être facilement utilisée par tout professionnel de santé afin de détecter précocement les patients en progression de maladie pouvant bénéficier d'une orientation vers les SP. Les données sont recueillies à partir du dossier médical électronique de l'hôpital (DxCare), à compter du 1er septembre et sur une période consécutive de 6 mois.

Résultats : Les patients ayant un score PALLIA-10 > 3 et remplissant les critères pour une orientation vers les SP seront rapportés. L'intégration précoce des SP à travers le PALLIA-10 et ses effets positifs seront également évalués.

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ABSTRACT 8:

BRCA MUTATION IN PANCREATIC CANCER: IS IT A ROUTINE TEST IN DAILY PRACTICE? A CHALLENGE OF AWARENESS AND ACCESS INEQUALITY

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Germline BRCA mutations have therapeutic and hereditary implications in pancreatic ductal adenocarcinoma, yet access disparities may limit routine testing. This study estimated the proportion of PDAC patients tested for germline BRCA, described their features, and identified determinants of testing.

Methods: We performed a retrospective descriptive and analytical study using the pathology registry of *Hôtel-Dieu de France* and the database of the Saint Joseph University Medical Genetics Unit (2015-2024). Primary outcome was the comparison between the diagnosed PDAC patients at HDF and those who underwent BRCA testing at UGM. Descriptive analyses, trend tests, and multivariable logistic regression were conducted.

Results: 118 PDAC cases were registered, only 13 (11.0%; 95%CI 6.6-17.9) underwent BRCA testing. No pathogenic BRCA1/2 variants were identified (0/13; 95%CI 0-20.6). A pathogenic BRIP1 variant and three variants of uncertain significance in DNA-repair genes were detected. Most requests (12/13; 92.3%) were initiated by oncologists, and testing frequency increased after 2020. In the multivariable analysis, younger age (OR 0.941 per year; 95%CI 0.888-0.998; p = 0.041) and oncology referral versus gastroenterology (OR 15.36; 95%CI 1.79-131.66; p = 0.013) were independently associated with testing. None of the tested patients received a PARP inhibitor.

Conclusions: BRCA testing rates in this Lebanese PDAC cohort are low and concentrated within oncology services, which highlights the need for more awareness and suggests disparities by age and referring specialty. The absence of BRCA-positive cases limits local prevalence estimates but highlights implementation gaps. Multicenter registries, reflex testing pathways, and cost-effectiveness evaluations are needed to ensure equitable access to precision oncology.

Abstract - French:

Objectifs : Les mutations germinales BRCA ont des implications thérapeutiques et héréditaires dans l'adénocarcinome canalaire pancréatique, mais des inégalités d'accès peuvent limiter la réalisation des tests. Cette étude a estimé la proportion de patients atteints de PDAC testés pour BRCA, décrit leurs caractéristiques et identifié les déterminants du test.

Méthodes : Étude rétrospective, descriptive et analytique, utilisant le registre d'anatomopathologie de l'Hôtel-Dieu de France et la base de données de l'Unité de génétique médicale (UGM) de l'Université Saint-Joseph de Beyrouth (2015–2024). Critère principal : comparaison entre patients PDAC diagnostiqués à l'HDF et ceux testés pour BRCA à l'UGM.

Résultats : 118 cas de PDAC furent recensés, seulement 13 (11,0 % ; IC95 % 6,6-17,9) bénéficièrent d'un test BRCA. Aucune mutation pathogène BRCA1/2 n'a été identifiée (0/13 ; IC95 % 0-20,6). Une mutation pathogène de BRIP1 et trois variants de signification incertaine furent détectés. La majorité des demandes (12/13 ; 92,3 %) provenaient d'oncologues, avec une augmentation après 2020. En analyse multivariée, un âge plus jeune (OR = 0,941/an ; IC95 % 0,888-0,998; p = 0,041) et l'orientation vers l'oncologie plutôt que la gastro-entérologie (OR = 15,36 ; IC95 % 1,79-131,66 ; p = 0,013) étaient indépendamment associés à la réalisation du test. Aucun patient testé n'a reçu d'inhibiteur de PARP.

Conclusions : Le taux de test BRCA dans cette cohorte libanaise de PDAC reste faible et concentré en oncologie, soulignant la nécessité d'une sensibilisation accrue et suggérant des disparités selon l'âge et la spécialité. L'absence de cas BRCA-positifs limite l'estimation de la prévalence locale mais souligne des lacunes d'implémentation. Registres multicentriques, parcours de test réflexe et analyses coût-efficacité sont nécessaires pour améliorer l'équité en oncologie de précision.

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ABSTRACT 9:

THE EXPERIENCE OF THE MEDICAL ONCOLOGY DEPARTMENT OF ROUIBA IN NEUROENDOCRINE TUMORS

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Subject: The Experience of the Medical Oncology Department of ROUIBA in Neuroendocrine Tumors.

Introduction: Neuroendocrine neoplasms are rare tumors (2 to 5 new cases per year per 100,000 people). They can be of genetic origin. They are a group of tumors likely to arise anywhere in the body and characterized by their ability to secrete hormones in about 30% of cases (responsible for clinical symptoms related to a tumor production of peptides or amines). The most common sites are the lung and the digestive tract, but they can also develop in organs such as the pancreas, the ENT region, or the thymus. (1)

Method: A retrospective study conducted by the Medical Oncology department of EPH ROUIBA regarding patients treated for neuroendocrine tumors.

The study identified 25 patients over a period of 36 months from February 2022 to February 2025. The parameters collected were: age, sex, primary neoplasia, treatment stage: monitoring, metastatic or supportive care, histological type; Ki-67 rate; grade; proposed treatment, number of courses received; duration of treatment; clinical and biological adverse effects; clinical and radiological response; disease evolution.

Results:

* **Sex ratio: 1.77 with (Female = 9 and** Male = 16)
* Average age = 56.7 years (17-84).
* **Family history of neoplasia: 16% of patients**
* **Average duration of treatment** = 4.7 months (2-14 months).
* **Primary tumor seat:** Digestive tract: 76% (digestive tract = 44%; pancreas = 28%; gallbladder = 4%); thoracic: 24% (mediastinum = 12%; lung = 12%)

* **Stage of disease:** Metastatic = 68% of patients with locations in decreasing order (liver; bone; peritoneal carcinosis; lung; brain)
  Localized = 32% of the patients.
* **Histological type:** neuroendocrine tumor = 80%; neuroendocrine carcinoma = 12%; carcinoid tumor = 8%
* **Histological grade:** grade 1 = 24%; grade 2 = 48%; grade 3 = 16%; carcinoma = 12%.
* **Mode of discovery:** symptomatic = 80%; incidental = 20%.
* Secretory syndrome: diarrhea (digestive type) = 32%; flushing syndrome = 16%
* Carcinoid heart disease = 8% with severe tricuspid insufficiency.
* **Pre-therapeutic assessment**: Octreoscan performed in 52%, urinary 5-HIAA: positive = 36%, negative = 28%, not done = 36%. Blood chromogranin: positive = 44%, negative = 20%, not done = 36%.
* **Surgical intervention:** yes = 40% (40% appendectomy); no = 60%
* **Performance status at diagnosis:** mean = 1.4 (0-4); PS 2 = 68%; PS ≥ 2 = 32%.
* **Treatment received:**
  Surgery: 10M (28%); Chemotherapy: 14 M (39%); Monitoring: 8M (22%); Supportive care: 4 M (11%).
* **Number of metastatic lines received:** 1st line = 47%; 2nd line = 38%; 3rd line: = 15%.
* **Protocols received:**
  - 1st line: somatostatin analog = 23%; CAPTEM=53%; etoposide + platinum salts = 24%.
  -2nd line: CAPTEM = 80%; etoposide + platinum salts = 20%.
  - 3rd line: Irinotecan = 8%.
* **Undesirable clinical effects:**
  Asthenia = 50%; grade 2 nausea = 61%; grade 2 vomiting = 38%; cholinergic syndrome = 15%.
* **Adverse biological effects:** grade 4 neutropenia = 07%.
* **Therapeutic response:** Partial response = 61%; progression = 39%.
* **Evolution of the disease:** Living = 72%; deceased = 28%.

Conclusion: Neuroendocrine tumors are very rare tumors with variable clinical and biological expression depending on the primary site, and their complications can affect the functional and vital prognosis of patients.

Abstract - French:

Objet : L'expérience du Service D'oncologie médicale de l'EPH ROUIBA en matière de tumeurs neuroendocrines.

Introduction : Les néoplasies neuroendocrines sont des tumeurs rares (2 à 5 nouveaux cas par an pour 100 000 personnes). Elles peuvent être d'origine génétique. Elles constituent un ensemble de tumeurs, susceptibles de naître en tout point de l'organisme et se caractérisent par leur capacité à sécréter des hormones dans 30 % des cas environ (responsables de symptômes cliniques liés à une production tumorale de peptides ou d'amines). Les sièges les plus fréquents sont le poumon et le tube digestif, mais elles peuvent également se développer dans des organes tels que le pancréas, la région ORL ou le thymus. (1)

Méthode : Une étude rétrospective menée par le service d'oncologie médicale de l'EPH ROUIBA au sujet des malades traités pour des tumeurs neuroendocrines.

L'étude a recensé 25 malades sur une durée de 36 mois (février 2022 - février 2025). Les paramètres prélevés étaient : âge, sexe, néoplasie primitive, stade de traitement : surveillance, métastatique ou soins de support, type histologique ; taux de Ki-67, grade ; traitement proposé, nombre de cures reçues ; durée du traitement ; effets indésirables cliniques et biologiques ; réponse clinique et radiologique ; évolution de la maladie.

Résultats :

* **Sexe-ratio :** 1.77 (Femme = 9 et Homme = 16)
* **Moyenne d'âge =** 56,7 ans (17-84).
* **Antécédents familiaux de néoplasie :** 16 % des malades
* **Durée moyenne de traitement =** 4,7 mois (2-14).
* **Siege de tumeur primitive :**
  Tube digestif : 76 % (tube digestif = 44 % ; pancréas = 28 % ; vésicule biliaire = 4 %)
  Thoracique : 24 % (médiastin = 12 % ; poumon = 12 %)
* **Stade de maladie :** métastatique = 68 % des malades avec sièges des localisations par ordre décroissants (foie ; os ; carcinose péritonéale ; poumon ; cerveau)
  Localisé = 32 % des malades.
* **Type histologique :** tumeur neuroendocrine = 80 % ; carcinome neuroendocrine = 12 % ; tumeur carcinoïde = 8 %
* **Grade histologique :** grade 1 = 24 % ; grade 2 = 48 % ; grade 3 = 16 % ; carcinome = 12 %.
* **Mode de découverte :** symptomatique = 80 % ; fortuite = 20 %.

* Syndrome sécrétoire : digestif type diarrhée = 32 % ; syndrome flush = 16 %
* Cœur carcinoïde = 8 % avec une insuffisance tricuspidienne sévère.
* **Bilan préthérapeutique** : Octreoscaner réalisé dans 52 % ; 5-HIAA urinaire : positif = 36 %, négatif = 28 %, non fait = 36 %. Chromogranine sanguine : positive = 44 %, négative = 20 % ; non faite = 36 %.
* **Intervention chirurgicale :** oui = 40 % avec 40 % d'appendicectomies ; non = 60 %
* **Statut de performance lors du diagnostic :** moyenne = 1,4 (0-4) ; PS 2 = 68 % ; PS ≥ 2 = 32 %.
* **Traitement reçu** : chirurgie : 10 M (28 %) ; chimiothérapie = 14 M (39 %) ; surveillance = 8 M (22 %) ; soins de support = 4 M (11 %).
* **Nombre de lignes métastatiques reçues :** 1re ligne = 47 % ; 2e ligne = 38 % ; 3e ligne = 15 %.
* **Protocoles reçus :**
  - 1re ligne : analogue de somatostatine = 23 % ; CAPTEM = 53 % ; étoposide + sels de platine = 24 %.
  - 2e ligne : CAPTEM = 80 % ; étoposide + sels de platine = 20 %.
  - 3e ligne : irinotécan = 8 %.
* **Effets indésirables cliniques constatés :** asthénie = 50 % ; nausée grade 2 = 61 % ; vomissement grade 2 = 38 % ; syndrome cholinergique = 15 %.
* **Effets indésirables biologiques constatés :** neutropénie grade 4 = 7 %.
* **Réponse thérapeutique :** réponse partielle = 61 % ; progression = 39 %.
* **Évolution de la maladie :** vivants = 72 % ; décédés = 28 %.

Conclusion : Les tumeurs neuroendocrines sont des tumeurs très rares avec une expression clinique et biologique variable en fonction du site primitif et dont les complications peuvent mettre en jeu le pronostic fonctionnel et vital des malades.

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ABSTRACT 10:

LEIOMYOSARCOMA OF THE BLADDER: A REVIEW AND A CASE REPORT EXPERIENCE IN THE MEDICAL ONCOLOGY DEPARTMENT OF SIDI GHILES

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Leiomyosarcoma of the bladder is an uncommon and aggressive cancer, constituting roughly 0.1% of all bladder malignancies. Because this pathology is so rare, information is limited to small patient series and individual case reports. Although its symptoms and imaging findings are comparable to the more common urothelial cancer, leiomyosarcoma tends to be more locally advanced and metastatic at presentation. The risk factors are not well-identified, and the prognosis is often poor. Due to the absence of a standardized treatment protocol, we present a case report from our department to share our experience and illustrate potential management tools for this challenging tumor from literature.

Abstract - French:

Le léiomyosarcome de la vessie est un cancer rare et agressif, représentant environ 0,1% de l'ensemble des tumeurs malignes vésicales. En raison de la rareté de cette pathologie, les informations disponibles se limitent à de petites séries de patients et à des rapports de cas isolés. Bien que ses symptômes et ses caractéristiques en imagerie soient comparables à ceux du cancer urothélial, bien plus fréquent, le léiomyosarcome a tendance à être plus localement avancé et métastatique au moment du diagnostic. Les facteurs de risque ne sont pas clairement identifiés et le pronostic est souvent sombre. En l'absence de protocole thérapeutique standardisé, nous présentons un cas issu de notre service afin de partager notre expérience et d'illustrer, à partir de la littérature, les outils de prise en charge potentiels de cette tumeur complexe.

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ABSTRACT 11:

SPIRITUALITY AS A PROTECTIVE FACTOR AGAINST SUICIDAL IDEATION AND BEHAVIOR IN CANCER PATIENTS IN LEBANON

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Cancer patients receiving chemotherapy are at increased risk of depression, anxiety, and suicide. Spirituality may serve as a protective factor, particularly in Lebanon where religious and cultural traditions remain

strong. This study aimed to assess whether spirituality protects against suicidal ideation and behavior in oncology patients.

Methods: We conducted a prospective, cross-sectional, non-interventional study at *Hôtel-Dieu de France* in Beirut. The protocol was approved by the Ethics Committee (Code: CEHDF 2413). Data were collected from June to August 2025. Inclusion criteria were: age ≥ 18 years, confirmed cancer, active chemotherapy in the day hospital, and ability to provide consent. Participants completed questionnaires covering sociodemographics, the *Functional Assessment of Chronic Illness Therapy – Spiritual Well-Being Scale (FACIT-Sp)*, the *Hospital Anxiety and Depression Scale (HADS)*, and the *Columbia Suicide Severity Rating Scale (C-SSRS)*. Analyses included descriptive statistics, correlations, ANOVA/Kruskal-Wallis, and ordinal logistic regression.

Results: A total of 258 patients were analyzed. Most had no suicidal ideation (C-SSRS = 0, n = 197), while 46 were at low risk, 4 at medium risk, and 11 at high risk. Spirituality scores decreased with suicide severity (mean: 38.3 in no-risk vs 25.7 in high-risk; $p < 0.001$). Higher spirituality correlated negatively with depression, anxiety, and suicide severity. In multivariate ordinal regression, spirituality remained an independent protective factor (*OR* = 0.94, 95% CI 0.90-0.99, $p = 0.033$), alongside family support (*OR* = 0.46, $p = 0.049$).

Conclusions: Spirituality and family support significantly protect against suicidal ideation in Lebanese cancer patients. Incorporating spiritual care and strengthening family involvement may improve psycho-oncological support and reduce suicide risk.

Abstract - French:

Objectifs : Les patients atteints de cancer présentent un risque accru de dépression, d'anxiété et d'idéation suicidaire. La spiritualité pourrait jouer un rôle protecteur, en particulier au Liban où les traditions religieuses et culturelles sont fortes. Cette étude visait à évaluer la spiritualité comme facteur protecteur contre les idéations suicidaires chez ces patients.

Méthodes : Étude prospective, transversale et non interventionnelle réalisée à l'Hôtel-Dieu de France (Beyrouth). Le protocole a été approuvé par le comité d'éthique (Code : CEHDF 2413). La collecte des données s'est déroulée de juin à août 2025. Critères d'inclusion : âge ≥ 18 ans, diagnostic confirmé de cancer, chimiothérapie active en hôpital de jour et consentement éclairé. Les patients ont complété des questionnaires incluant données sociodémographiques, *FACIT-Sp* (spiritualité), *HADS* (anxiété, dépression) et *C-SSRS* (suicidalité). Analyses : statistiques descriptives, corrélations, ANOVA/Kruskal-Wallis et régression logistique ordinale.

Résultats : 258 patients ont été inclus. La majorité n'avait pas d'idéation suicidaire (C-SSRS = 0, n = 197) ; 46 présentaient un faible risque, 4 un risque moyen et 11 un risque élevé. Les scores de spiritualité diminuaient avec la sévérité du risque (38,3 sans risque vs 25,7 à haut risque ; $p < 0,001$). La spiritualité était corrélée négativement à la dépression, à l'anxiété et au score C-SSRS. En analyse multivariée, elle restait un facteur protecteur indépendant (*OR* = 0,94 ; IC 95 % 0,90-0,99 ; $p = 0,033$), tout comme le soutien familial (*OR* = 0,46 ; $p = 0,049$).

Conclusions : La spiritualité et le soutien familial apparaissent comme des facteurs protecteurs significatifs contre les idéations suicidaires chez les patients cancéreux au Liban. Leur intégration dans la prise en charge psycho-oncologique pourrait réduire le risque suicidaire.

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ABSTRACT 12:

OUR INSTITUTIONAL CONSENSUS ON TMT IN MIBC: IMPLEMENTATION AND SHORT-TERM EXPERIENCE

Categories: 3- Basic Research

Abstract - English:

Background: Radical cystectomy (RC) remains the gold standard for muscle-invasive bladder cancer (MIBC) but carries significant morbidity and loss of bladder function. Trimodality therapy (TMT), transurethral resection of bladder tumor (TURBT) followed by chemoradiation, offers a bladder-preserving alternative with comparable outcomes in selected patients. While widely adopted in high-volume centers, data from resource-limited settings such as Lebanon are lacking.

Methods: We conducted a retrospective study at *Hôtel-Dieu de France* University Medical Center, to evaluate the feasibility of TMT since its implementation as part of our institutional consensus in October 2023. Eligible patients had cT2N0M0 urothelial carcinoma and preserved bladder function. All cases were reviewed in a multidisciplinary tumor board (RCP) to confirm eligibility. The protocol included neoadjuvant chemotherapy, repeat cystoscopy/imaging for restaging, and radiotherapy with concurrent cisplatin. Patient characteristics, treatment delivery, RCP decisions, surveillance, and early outcomes were analyzed.

Results: Twelve patients (median age 72) underwent TMT. Presenting symptoms included hematuria (42%) and dysuria (33%). Six patients had prior intravesical BCG. Radiotherapy was completed in 30-33 fractions. Only 25% adhered to the recommended cystoscopy surveillance. After a median 12-month follow-up, bladder preservation was achieved in most, with 2 local recurrences (16.7%), both in prior BCG recipients. One patient developed pancreatic cancer. All management decisions were guided by RCP consensus.

Conclusions: TMT implementation for MIBC, according to our institutional consensus, is feasible in Lebanon, achieving promising short-term bladder preservation. Multidisciplinary board discussions were essential. Larger studies are needed to refine protocols and validate TMT in low-/middle-income settings.

Abstract - French:

Contexte : La cystectomie radicale (CR) demeure le traitement de référence du cancer de la vessie infiltrant le muscle (CVIM), mais entraîne une morbidité et la perte de la fonction vésicale. La thérapie trimodale (TMT), combinant RTUV maximale et chimioradiothérapie, constitue une alternative conservatrice aux résultats comparables dans des centres experts. Les données dans les pays à ressources limitées sont rares.

Méthodes : Nous avons mené une étude pilote rétrospective à l'Hôtel-Dieu de France afin d'évaluer la faisabilité et les résultats de la TMT depuis son adoption institutionnelle en octobre 2023. Les patients éligibles présentaient un carcinome urothélial cT2N0M0 avec fonction vésicale préservée. Tous les cas ont été discutés en réunion pluridisciplinaire (RCP). Le protocole incluait une chimiothérapie néoadjuvante, une cystoscopie de restaging, puis une radiothérapie avec cisplatine concomitant. Les caractéristiques des patients et les résultats précoces ont été analysés.

Résultats : Douze patients (âge médian 72 ans) ont reçu une TMT. Les symptômes initiaux étaient l'hématurie (42 %) et la dysurie (33 %). Six avaient reçu un BCG intravésical antérieur. La radiothérapie a été complétée chez tous (30-33 fractions). Seuls 25 % ont respecté le calendrier cystoscopique. Après 12 mois de suivi médian, la préservation vésicale a été obtenue dans la majorité des cas, avec 2 récidives locales (16,7 %), toutes après BCG. Un patient a développé un cancer du pancréas.

Conclusions : La TMT selon notre consensus est faisable au Liban, avec des résultats précoces encourageants. La RCP a joué un rôle central. Des séries plus larges et un suivi prolongé sont nécessaires.

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ABSTRACT 13:

CREATINE IN CANCER, POTENTIAL THERAPEUTIC APPLICATIONS, AND THE ROLE OF SLC6A8 TRANSPORTER AND CREATINE KINASE ENZYMES: A NARRATIVE REVIEW

Categories: 3- Basic Research

Abstract - English:

Objective: This study demonstrates the unique role of creatine in cancer by investigating the different mechanisms it plays in the human body and cancer cells, and synthesizing the most recent scientific findings.

Methods: We conducted an extensive literature search using specific keywords from the PubMed, Scopus, and Google Scholar databases.

Results: Our findings indicate that creatine metabolism plays a dual role in cancer biology. On one hand, creatine promotes tumor invasion, aggressiveness, and metastasis through mechanisms such as the upregulation of creatine kinase enzymes and the overexpression of the SLC6A8 transporter. On the other hand, targeting these pathways offers promising therapeutic opportunities. For example, the inhibition of SLC6A8 transporters and creatine kinase enzymes has demonstrated efficacy in preclinical models of cancer. Given the well-documented efficacy of creatine supplementation in enhancing muscle strength and mass, current trials are investigating its effect on the quality of life of patients with cancer. These findings underscore the complexity of the role of creatine in cancer, necessitating further investigation.

Conclusions: Creatine metabolism emerges as a multifaceted player in cancer biology, with potential as both a therapeutic target and a supportive treatment option. While promising, its application in clinical settings remains limited by gaps in research, particularly the lack of comprehensive clinical trials. Further studies are essential to translate preclinical findings into effective cancer therapies and to better understand the dual nature of the role of creatine in tumor biology.

Abstract - French:

Objectif : Cette étude démontre le rôle unique de la créatine dans le cancer, en étudiant les différents mécanismes qu'elle joue dans le corps humain et les cellules cancéreuses, et en synthétisant les découvertes scientifiques les plus récentes.

Méthodes : Nous avons effectué une recherche documentaire approfondie à l'aide de mots-clés spécifiques issus des bases de données PubMed, Scopus et Google Scholar.

Résultats : Nos résultats indiquent que le métabolisme de la créatine joue un double rôle dans la biologie du cancer. D'une part, la créatine favorise l'invasion tumorale, l'agressivité et les métastases par des mécanismes tels que la régulation positive des enzymes créatine kinase et la surexpression du transporteur SLC6A8. D'autre part, le ciblage de ces voies offre des perspectives thérapeutiques prometteuses. Par exemple, l'inhibition des transporteurs SLC6A8 et des enzymes créatine kinase a démontré son efficacité dans des modèles précliniques de cancer. Compte tenu de l'efficacité bien documentée de la supplémentation en créatine pour améliorer la force et la masse musculaires, des essais cliniques en cours étudient son effet sur la qualité de vie des patients atteints de cancer. Ces résultats soulignent la complexité du rôle de la créatine dans le cancer, nécessitant des recherches plus approfondies.

Conclusions : Le métabolisme de la créatine apparaît comme un acteur multidimensionnel de la biologie du cancer, offrant un potentiel à la fois comme cible thérapeutique et comme option thérapeutique de soutien. Bien que prometteuse, son application en milieu clinique reste limitée par les lacunes de la recherche, notamment l'absence d'essais cliniques complets.

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ABSTRACT 14:

THE IMPACT OF INFORMATION OBTAINED ABOUT THE DISEASE ON CANCER PATIENTS' LIVES

Categories: 3- Basic Research

Abstract - English:

Objective: This study explored the relationship between cancer patients' satisfaction with information received about their illness and their illness experience, focusing on illness acceptance and illness representations.

Methods: Fourteen adult Lebanese cancer patients were divided into two groups based on satisfaction with information (INFODIS subscale of the EORTC QLQ-INFO25; ≥ 50% = satisfied, < 50% = unsatisfied). Group A included satisfied patients, and Group B included unsatisfied patients. Semi-structured interviews were conducted to collect qualitative data on illness acceptance and representations.

Results: Patients satisfied with information demonstrated more advanced illness acceptance across the Kübler-Ross phases and expressed their experiences more elaborately. They also constructed more medically accurate and rationalized representations of cancer, whereas unsatisfied patients relied more on affective and cultural representations. Satisfaction with information appeared influenced by multiple factors, including physician-patient communication, family support, personal coping strategies, and prior knowledge.

Conclusion: Satisfaction with information is a key factor in promoting illness acceptance and accurate illness representations among cancer patients. Providing clear, comprehensive information and facilitating patient expression can enhance adaptation to cancer and its treatment.

Abstract - French:

Objectif : Cette étude a examiné le lien entre la satisfaction des patients atteints de cancer concernant les informations reçues sur leur maladie et leur vécu, en se concentrant sur l'acceptation de la maladie et ses représentations.

Méthodes : Quatorze patients adultes libanais ont été répartis en deux groupes selon leur satisfaction vis-à-vis des informations reçues (sous-échelle INFODIS du questionnaire EORTC QLQ-INFO25 ; ≥ 50 % = satisfaits, < 50 % = non satisfaits). Le groupe A comprenait les patients satisfaits et le groupe B les patients non satisfaits. Des entretiens semi-directifs ont été menés pour recueillir des données qualitatives sur l'acceptation de la maladie et les représentations associées.

Résultats : Les patients satisfaits des informations ont montré une acceptation de la maladie plus avancée selon les phases de Kübler-Ross et ont exprimé leur vécu de manière plus élaborée. Ils ont également construit des représentations plus médicales et rationnelles du cancer, tandis que les patients non satisfaits se basaient davantage sur des représentations affectives et culturelles. La satisfaction quant aux informations semble influencée par la communication médecin-patient, le soutien familial, les stratégies de coping personnelles et les connaissances préalables.

Conclusion : La satisfaction des informations reçues favorise l'acceptation de la maladie et des représentations plus objectives du cancer. Offrir des informations claires et permettre l'expression des patients peut améliorer leur adaptation à la maladie et aux traitements.

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ABSTRACT 15:

CHARACTERIZATION OF CYTOGENETIC ABNORMALITIES IN LEBANESE MULTIPLE MYELOMA PATIENTS

Categories: 3- Basic Research

Abstract - English:

Objectives: Multiple Myeloma (MM) is a hematological malignancy originating from the bone marrow and affecting the germinal lymphoid B cells, leading to abnormal plasma cells and end organ damage. Genetic profiling is necessary for risk stratification and optimized treatment. The genetics of MM patients in the Middle East, more specifically in Lebanon, have been scarcely reported. This lack of data can adversely affect the decision-making process and the establishment of guidelines and standardized protocols.

Methods: In this study, the cytogenetics of 258 Lebanese MM patients were studied using conventional karyotyping and/or fluorescent in situ hybridization (FISH) techniques, screening for common cytogenetic anomalies.

Results: Several abnormalities were detected on karyotypes, including complex karyotypes and hypodiploidy. By FISH, del(17)(p13) (10.9%) and the translocation t(4; 14)(p16; q32) (10.9%) were the most common abnormalities found. Interestingly, we did not detect any t(14; 16)(q32; q23) translocation by FISH.

Conclusion: The current work represents the first study reporting data on the cytogenetics of MM in Lebanon, highlighting some similarities and some differences in the distribution of cytogenetic characteristics between our population and other populations, and paving the way for more advanced cytogenomic and clinical studies. Additionally, our study contributes to expanding the available data on cancer genomics in understudied populations, thereby helping to bridge existing knowledge gaps and promote more inclusive precision oncology.

Keywords: Multiple Myeloma, Plasma cells, Cytogenetics, FISH, Karyotype, Biomarkers, Lebanon.

Abstract - French:

Objectifs : Le myélome multiple (MM) est une hémopathie maligne caractérisée par la prolifération clonale de plasmocytes anormaux dérivés des lymphocytes B centro-germinaux, entraînant une atteinte des organes cibles. La stratification pronostique repose en grande partie sur le profilage cytogénétique, qui influence à la fois le risque évolutif et les décisions thérapeutiques. Les données concernant les patients libanais demeurent limitées. Cette étude vise à décrire leur profil cytogénétique et à le comparer aux tendances rapportées dans d'autres populations.

Méthodes : La cytogénétique de 258 patients libanais atteints de MM a été étudiée par caryotype conventionnel et/ou hybridation in situ en fluorescence (FISH), avec un dépistage ciblé des anomalies les plus fréquentes.

Résultats : Le caryotypage a révélé plusieurs anomalies, dont des caryotypes complexes et l'hypodiploïdie. Par FISH, la délétion del(17) (p13) (10,9 %) et la translocation t (4 ; 14) (p16 ; q32) (10,9 %) étaient les plus fréquentes. De manière notable, aucune translocation t (14 ; 16) (q32 ; q23) n'a été détectée dans notre cohorte.

Conclusions : Cette étude est la première à rapporter des données cytogénétiques de patients atteints de MM au Liban. Elle met en évidence des similitudes et certaines divergences par rapport aux cohortes internationales et constitue une base pour des études cytogénomiques et cliniques plus approfondies. Cette contribution enrichit les connaissances en génomique du cancer dans les populations sous-représentées et favorise une oncologie de précision plus inclusive.

Mots-clés : myélome multiple, plasmocytes, cytogénétique, FISH, caryotype, biomarqueurs, Liban.

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ABSTRACT 16:

RENAL FUNCTION AFTER PEDIATRIC NEUROBLASTOMA RADIOTHERAPY: TWO DECADES OF OUTCOMES AND CLINICAL IMPLICATIONS

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Neuroblastoma is the most common extracranial solid tumor in children. Radiotherapy (RT) is essential for disease control but raises concerns about late renal effects. This study evaluated the long-term impact of RT on renal function in pediatric neuroblastoma survivors through biochemical, dosimetric, and radiographic assessments over two decades.

Methods: We retrospectively reviewed 36 neuroblastoma patients treated with definitive RT between 2002 and 2024. Renal outcomes were assessed using serum creatinine, blood urea nitrogen (BUN), creatinine clearance (CrCl), kidney dosimetry (mean dose, V15, V20), and follow-up imaging studies.

Results: At a median follow-up of 3.2 years (range 0.7-19.8), serum creatinine (0.33→0.38 mg/dL, p = 0.033) and BUN (9.53→19.44 mg/dL, p < 0.001) showed significant increases, while CrCl remained stable (154.5→156.2 mL/min, p = 0.886). Importantly, no patient developed clinically significant renal impairment, and the observed changes were consistent with physiologic aging. Greater biomarker elevations occurred in patients younger than 5 years at RT initiation, in those receiving abdominal doses > 30 Gy, and with renal V15/V20 exposure > 30%. Kidney mean dose was not associated with creatinine changes. Radiographic abnormalities, including cortical thinning, renal atrophy, and hypoattenuation, were detected in four patients but showed no correlation with biochemical dysfunction. No cases of chronic kidney disease, dialysis requirement, or new-onset hypertension were identified during follow-up.

Conclusions: Renal outcomes remained largely preserved, with only mild biochemical changes and infrequent imaging abnormalities. These results support the safety of contemporary RT when delivered with careful renal dosimetric planning to minimize late toxicity.

Abstract - French:

Objectifs : Le neuroblastome est la tumeur solide extracrânienne la plus fréquente chez l'enfant. La radiothérapie est essentielle au contrôle de la maladie, mais peut avoir des effets tardifs sur la fonction rénale. Cette étude a évalué l'impact de la radiothérapie sur la fonction rénale chez des survivants pédiatriques de neuroblastome, à travers des données biochimiques, dosimétriques et radiographiques recueillies sur deux décennies.

Méthodes : Trente-six patients traités par radiothérapie définitive entre 2002 et 2024 ont été analysés rétrospectivement. La fonction rénale a été évaluée par la créatinine sérique, l'urée sanguine (BUN), la clairance de la créatinine (ClCr), la dosimétrie rénale (dose moyenne, V15, V20) et l'imagerie de suivi.

Résultats : Après un suivi médian de 3,2 ans (0,7-19,8), la créatinine sérique (0,33→0,38 mg/dL, p = 0,033) et l'urée (9,53→19,44 mg/dL, p < 0,001) ont augmenté significativement, tandis que la ClCr est restée stable (154,5→156,2 mL/min, p = 0,886). Aucun patient n'a développé d'insuffisance rénale clinique et les variations semblaient liées au vieillissement. Les augmentations étaient plus marquées chez les patients de moins de 5 ans, ceux recevant > 30 Gy abdominaux et avec V15/V20 > 30 %. La dose moyenne n'a pas influencé la créatinine. Des anomalies radiologiques (amincissement cortical, atrophie, hypoatténuation) ont été observées chez quatre patients sans corrélation biochimique. Aucun cas d'insuffisance rénale chronique, de dialyse ou d'hypertension n'a été constaté.

Conclusions : La fonction rénale est restée globalement préservée, avec seulement des altérations biochimiques modestes et de rares anomalies radiologiques. Ces résultats soutiennent la sécurité de la radiothérapie contemporaine lorsqu'une planification dosimétrique rigoureuse est appliquée.

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ABSTRACT 17:

PEACE OF MIND OR MEDICAL NECESSITY? UNDERSTANDING CONTRALATERAL PROPHYLACTIC MASTECTOMY DECISIONS IN BREAST CANCER

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Contralateral prophylactic mastectomy (CPM) continues to rise despite limited benefit in average-risk patients. While well studied in Western populations, little is known about factors driving CPM decisions in the Middle East. This study evaluated clinical, psychosocial, and communication influences on CPM choices among breast cancer (BC) patients.

Methods: We reviewed 253 women with BC who underwent mastectomy, with or without CPM. Clinical and demographic data were collected from records, decision-making factors from patient questionnaires, and associations analyzed using chi-square tests and multivariable logistic regression.

Results: Of 253 women, 37 underwent CPM and 216 unilateral mastectomy (UM). CPM patients were more likely to have a college education (96.9% vs. 57.6%, $p < 0.001$), be employed (69.7% vs. 41.3%, $p = 0.002$), and report a family history of BC (55.6% vs. 30.2%, $p = 0.003$). Immediate reconstruction was more frequent (67.6% vs. 16.4%, $p < 0.001$), and 30-day rehospitalization was higher (16.2% vs. 6.1%, $p = 0.031$). They prioritized extending life (84.6% vs. 56.7%, $p = 0.007$) and peace of mind (80.8% vs. 49.3%, $p = 0.003$). Although all cited risk reduction, only 46.2% believed recurrence risk was lower (vs. 20%, $p < 0.001$). UM decisions were more often physician-influenced (95.3% vs. 53.8%, $p < 0.001$), while CPM was patient-driven. CPM patients also reported greater dissatisfaction with pain (57.7% vs. 32.0%, $p = 0.012$) and reconstruction outcomes (54.5% vs. 27.5%, $p = 0.035$).

Conclusion: CPM choices were largely preference-driven rather than risk-based, highlighting the need for better risk communication, shared decision-making, and the integration of genetic counseling.

Abstract - French:

Objectifs : La mastectomie prophylactique controlatérale (MPC) augmente malgré un bénéfice limité. Cette étude a évalué les facteurs cliniques, psychosociaux et communicationnels influençant ce choix au Moyen-Orient.

Méthodes : Étude rétrospective de 253 femmes ayant subi une mastectomie avec ou sans MPC. Données cliniques issues des dossiers, facteurs décisionnels de questionnaires, analyses par chi carré et régression logistique.

Résultats : Parmi 253 femmes, 37 ont choisi une MPC et 216 une mastectomie unilatérale (MU). Les patientes MPC avaient plus souvent un diplôme universitaire (96,9 % vs 57,6 %, $p < 0,001$), un emploi (69,7 % vs 41,3 %, $p = 0,002$) et des antécédents familiaux (55,6 % vs 30,2 %, $p = 0,003$). La reconstruction immédiate était plus fréquente (67,6 % vs 16,4 %, $p < 0,001$) et la réhospitalisation à 30 jours plus élevée (16,2 % vs 6,1 %, $p = 0,031$). Elles privilégiaient l'allongement de la vie (84,6 % vs 56,7 %, $p = 0,007$) et la tranquillité d'esprit (80,8 % vs 49,3 %, $p = 0,003$). Bien que toutes aient cité la réduction du risque, seules 46,2 % estimaient leur risque de récidive plus faible (vs 20 %, $p < 0,001$). Les décisions de MU étaient surtout guidées par les médecins (95,3 % vs 53,8 %, $p < 0,001$), celles de MPC par les patientes, qui rapportaient aussi plus d'insatisfaction concernant la douleur (57,7 % vs 32,0 %, $p = 0,012$) et la reconstruction (54,5 % vs 27,5 %, $p = 0,035$).

Conclusion : Les choix de MPC étaient surtout dictés par les préférences personnelles plutôt que par le risque clinique, soulignant le besoin d'une meilleure communication, d'une décision partagée et de conseil génétique.

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ABSTRACT 18:

A DECADE OF MELANOMA CARE: CLINICOPATHOLOGICAL FEATURES, TREATMENT PATTERNS, AND SURVIVAL OUTCOMES IN A REAL-WORLD SETTING

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Malignant melanoma is a rare but aggressive skin cancer responsible for most skin cancer-related deaths. While well characterized in Western countries, data from the Middle East are limited. This study assessed the characteristics and survival outcomes of melanoma patients in Lebanon over a decade.

Methods: We retrospectively reviewed records of melanoma patients treated at the American University of Beirut Medical Center between 2012 and 2022. Survival was analyzed using Kaplan-Meier and log-rank tests, with uni- and multivariable analyses to identify prognostic factors.

Results: We included 145 patients, mean age 55.8 ± 16.5 years, with near-equal gender distribution. Most (89.6%) had cutaneous melanoma, predominantly superficial spreading (60.2%). Median Breslow thickness was 2.6 mm (0.18-37 mm), and ulceration was present in 59.2%. Surgical excision was performed in 81.4%, and 36.9% received adjuvant therapy. At diagnosis, 56.3% were stage I–II and 44.7% stage III–IV. At last follow-up, 56.2% had progressed and 36.6% had died. Median PFS was 23.6 months and OS 93 months. Poor OS was associated with trunk location, advanced stage, Breslow >4 mm, ulceration, lymphovascular invasion, high mitotic index, positive sentinel node, and distant metastases (all $p < 0.05$). On multivariable analysis, only metastasis independently predicted worse OS ($p = 0.027$).

Conclusions: This represents the largest Lebanese series to date and highlights survival variability driven by stage and tumor biology. Early-stage disease had favorable outcomes, while advanced disease and metastasis predicted poor survival, emphasizing the need for earlier detection, better risk stratification, and broader access to systemic therapies.

Abstract - French:

Objectifs : Le mélanome malin est un cancer cutané rare mais agressif, responsable de la majorité des décès liés aux cancers de la peau. Peu étudié au Moyen-Orient, il reste mal caractérisé au Liban. Cette étude analyse les caractéristiques et la survie des patients sur dix ans.

Méthodes : Revue rétrospective de patients traités à l'American University of Beirut Medical Center (2012–2022). La survie a été estimée par Kaplan-Meier et comparée par log-rank. Les facteurs pronostiques ont été étudiés par analyses uni- et multivariées.

Résultats : Cent quarante-cinq patients ont été inclus, âge moyen 55,8 ans, sexes équilibrés. La majorité (89,6 %) présentait un mélanome cutané, surtout superficiel extensif (60,2 %). L'épaisseur médiane de Breslow était de 2,6 mm, avec ulcération dans 59,2 %. 81,4 %, ont subi une exérèse chirurgicale et 36,9 % ont reçu un traitement adjuvant. Au diagnostic, 56,3 % étaient au stade I–II et 44,7 % au stade III–IV. Au suivi, 56,2 % avaient progressé et 36,6 % étaient décédés. La SSP médiane était de 23,6 mois et la SG de 93 mois. Une survie défavorable était liée à la localisation tronculaire, au stade avancé, à Breslow > 4 mm, à l'ulcération, à l'invasion lymphovasculaire, à un index mitotique élevé, à un ganglion sentinelle positif et aux métastases ($p < 0,05$). En multivarié, seules les métastases restaient prédictives ($p = 0,027$).

Conclusion : Cette plus grande série libanaise confirme un bon pronostic aux stades précoces, mais une survie médiocre aux stades avancés, soulignant l'importance du dépistage précoce et de l'accès aux thérapies modernes.

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ABSTRACT 19:

EQUITY IN AML CARE: REAL-WORLD APPLICATION OF NEXT-GENERATION SEQUENCING IN RESOURCE-LIMITED SETTINGS

Categories: 2- Clinical Research in Hematology

Abstract - English:

Background: Despite major advances in molecular diagnostics, access to next-generation sequencing (NGS) remains limited in low- and middle-income countries (LMICs), where AML outcomes remain suboptimal.

This study aims to: (1) characterize the mutational spectrum in newly diagnosed and relapsed AML patients; (2) assess how NGS-driven molecular classification redefines prognostic stratification and modifies clinical decisions.

Methods: This single-center, retrospective study included adult patients diagnosed with AML, treated at AUBMC from 2018 to 2021, with available cytogenetic and NGS data. Data were collected from the EPIC system. NGS results were used to identify pathogenic mutations, stratify ELN risk, reclassify diploid AML, and evaluate treatment decisions.

Results: Among 101 AML patients, 68% had *de novo* AML, 24% secondary, and 8% therapy-related. Cytogenetic risk was favorable in 6%, adverse in 28%, and intermediate in 66%, including 53% with diploid karyotype. NGS was performed at diagnosis in 76% of patients. NGS identified pathogenic mutations in 93% of tested patients. High-risk mutations such as *ASXL1*, *RUNX1* and *TP53* were observed in 10%, 6% and 4%, respectively.

ORR was 53%. CR with MRD negativity was achieved in 43%, and MRD+ CR in 10%. After a median follow-up of 4.5 years, the 2-year OS and LFS for all patients were 63% and 54.3%, respectively.

Conclusion: This study provides compelling real-world evidence that NGS is both feasible and clinically impactful in resource-limited settings. Despite infrastructural and economic challenges, integrating NGS into frontline AML care enabled molecular risk reclassification in nearly one-third of patients, altering treatment decisions.

Abstract - French:

Contexte : Malgré des progrès majeurs en diagnostic moléculaire, l'accès au séquençage de nouvelle génération (NGS) reste limité dans les pays à revenu faible et intermédiaire (PRFI), où les résultats de la LAM sont sous-optimaux. Cette étude vise à : (1) caractériser le profil mutationnel chez les patients atteints de LAM nouvellement diagnostiquée ou en rechute ; (2) évaluer l'impact du NGS sur la stratification pronostique et les décisions cliniques.

Méthodes : Étude rétrospective, monocentrique, incluant des adultes diagnostiqués avec une LAM à l'AUBMC entre 2018 et 2021, avec données cytogénétiques et NGS disponibles. Les données ont été extraites du système EPIC. Le NGS a permis d'identifier des mutations pathogènes, de classifier le risque selon l'ELN, de reclasser les LAM diploïdes et d'évaluer les décisions thérapeutiques.

Résultats : Sur 101 patients, 68 % avaient une LAM de novo, 24 % secondaire et 8 % liée au traitement. Le risque cytogénétique était favorable chez 6 %, défavorable chez 28 % et intermédiaire chez 66 %, dont 53 % à caryotype diploïde. Le NGS a été réalisé au diagnostic chez 76 % des patients, révélant des mutations pathogènes dans 93 % des cas. Les mutations ASXL1, RUNX1 et TP53 ont été retrouvées chez 10 %, 6 % et 4 %. Le taux de réponse globale était de 53 %, avec 43 % de rémission complète sans MRD. À 2 ans, la survie globale et la survie sans leucémie étaient de 63 % et 54,3 %.

Conclusion : Le NGS est faisable et cliniquement pertinent en contexte de ressources limitées, permettant une reclassification du risque chez un tiers des patients et influençant les traitements.

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ABSTRACT 20:

CLADRIBINE, LOW-DOSE CYTARABINE, AND VENETOCLAX IN NEWLY DIAGNOSED AND RELAPSED/REFRACTORY ACUTE MYELOID LEUKEMIA: A GLOBAL PERSPECTIVE

Categories: 2- Clinical Research in Hematology

Abstract - English:

Objectives: The combination of cladribine (CLAD), low-dose cytarabine (LDAC), and venetoclax (CLAD-LDAC-venetoclax) has demonstrated promising efficacy in acute myeloid leukemia (AML) but remains underutilized globally. Since 2020, this regimen has been implemented at the American University of Beirut Medical Center (AUBMC) for patients ineligible for intensive chemotherapy.

Methods: This study evaluates its efficacy and safety in newly diagnosed and relapsed/refractory (R/R) AML. We retrospectively analyzed consecutive AML patients treated with CLAD-LDAC-venetoclax from January 2020 to September 2024. Treatment consisted of cladribine (5 mg/m²/day, 5 days), LDAC (20 mg subcutaneously twice daily, 10 days), and venetoclax (100 mg daily with azole antifungal co-administration). Outcomes included overall response rate (ORR), complete remission (CR), and CR with incomplete hematologic recovery (CRi), event-free survival (EFS), overall survival (OS), and safety.

Results: Among 19 frontline patients (median age: 67 years), the ORR rate was 88% (CR/CRi: 76%/12%), with 47% undergoing allogeneic hematopoietic cell transplantation (allo-HCT). Median EFS was 13.4 months, OS was 35.3 months, and 2-year OS was 58%. In 14 R/R AML patients (all venetoclax-pretreated), ORR rate was 57% (CR/CRi:

29%/21%), with a median EFS of 2 months and OS of 5.2 months. In both cohorts, infection rates were increased, especially in secondary AML.

Conclusion: CLAD-LDAC-venetoclax shows strong efficacy in newly diagnosed AML but limited durability in relapsed/refractory cases, especially after prior venetoclax exposure. It remains a valuable induction option for unfit patients, underscoring the need for new salvage strategies in R/R AML.

Abstract - French:

Objectifs : Le schéma cladribine (CLAD), cytarabine à faible dose (LDAC) et vénétoclax (CLAD-LDAC-vénétoclax) a récemment émergé comme une alternative prometteuse dans la leucémie myéloïde aiguë (LMA), en particulier chez les patients inéligibles à une chimiothérapie intensive. Son utilisation demeure toutefois limitée à l'échelle mondiale.

Méthodes : Nous avons réalisé une étude rétrospective incluant tous les patients traités par CLAD-LDAC-vénétoclax à l'American University of Beirut Medical Center (AUBMC) entre janvier 2020 et septembre 2024. Le protocole associait CLAD (5 mg/m²/jour, J1–J5), LDAC (20 mg SC, 2x/jour, J1–J10) et vénétoclax (100 mg/jour sous antifongique azolé). Les critères principaux étaient : taux de réponse globale (TRG = RC + RCi), survie sans événement (EFS), survie globale (OS) et tolérance.

Résultats : Chez 19 patients nouvellement diagnostiqués (âge médian 67 ans), le TRG atteignait 88 % (RC 76 %, RCi 12 %), avec 47 % ayant accédé à une allogreffe. L'EFS médiane était de 13,4 mois et l'OS médiane de 35,3 mois, avec une survie à 2 ans de 58 %.

Chez 14 patients en rechute/réfractaire (tous préalablement exposés au vénétoclax), le TRG était de 57 % (RC 29 %, RCi 21 %), avec une EFS médiane de 2 mois et une OS de 5,2 mois. Les infections représentaient la toxicité principale, en particulier dans les LMA secondaires.

Conclusion : CLAD-LDAC-vénétoclax offre une efficacité remarquable en première ligne mais un bénéfice limité en rechute/réfractaire après exposition préalable au vénétoclax. Ce schéma s'impose comme une stratégie d'induction pour patients fragiles et met en évidence l'urgence de développer de nouvelles options de sauvetage.

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ABSTRACT 21:

THE ABSENCE OF CLINICAL TRIALS IN SYRIA: AWARENESS OF PATIENTS AND BARRIERS TO ADVANCING CANCER CARE

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Syria is a country ravaged by over a decade of conflict, which has left the healthcare system ill-equipped. Cancer patients face overwhelming challenges: limited diagnostic tools, shortages of medications, and a total absence of clinical trials. While the global cancer research landscape continues to evolve, Syrian patients remain isolated from these advancements. This study explores the experiences and awareness levels regarding clinical trials among Syrian cancer patients.

Methods: This mixed-method study was conducted on 108 gynecological cancer patients at Al Bairuni University Hospital. Quantitative data were collected via structured, phone-based interviews. Qualitative data were obtained from in-person interviews focusing on personal narratives, treatment challenges, and awareness of clinical research.

Results: The study included 108 patients with gynecological cancers, with a mean age of 55 years. The participants were distributed between rural and urban areas across Syria. An overwhelming majority (n = 107, 99%) had never heard the term "clinical trials" before. Stories emerged of delayed diagnoses, long travel distances for chemotherapy, and selling personal belongings to afford medications. Fear, social stigma, and religious uncertainty further shaped perceptions of medical research. Patients described hospitals with limited resources, long wait times, and inconsistent care—underscoring the fragility of the healthcare system.

Conclusion: This study highlights the alarming knowledge gap surrounding clinical trials in Syria. In the absence of clinical trials and reliable care, patients face cancer burden alone. This study represents a step toward rebuilding Syria's research capacity by calling for international partnerships and addressing urgent gaps to offer patients a path toward hope.

Abstract - French:

Objectif : La Syrie est un pays ravagé par plus d'une décennie de conflit, laissant un système de santé gravement affaibli. Les patients atteints de cancer y font face à d'immenses difficultés. Alors que la recherche mondiale en oncologie progresse, les patients syriens restent exclus de ces avancées. Cette étude explore les expériences et le niveau de sensibilisation des patients syriens atteints de cancer vis-à-vis des essais cliniques.

Méthodes : Cette étude à méthodes mixtes a été menée auprès de 108 patientes atteintes de cancers gynécologiques à l'Hôpital universitaire Al Bairuni. Les données quantitatives ont été recueillies via des entretiens téléphoniques structurés. Les données qualitatives ont été obtenues lors d'entretiens en personne, centrés sur les récits individuels, les difficultés de traitement et la connaissance de la recherche clinique.

Résultats : L'étude a inclus 108 patientes, avec un âge moyen de 55 ans. Les participantes étaient originaires de Syrie et réparties à travers ce pays. Une écrasante majorité (n = 107, 99 %) n'avait jamais entendu le terme

« essais cliniques ». Des témoignages ont révélé des diagnostics tardifs et de longs trajets pour recevoir une chimiothérapie. La peur, la stigmatisation sociale et les incertitudes religieuses influençaient également leur perception de la recherche médicale. Les hôpitaux étaient décrits comme sous-équipés et surchargés.

Conclusion : Cette étude met en lumière un déficit alarmant de connaissance sur les essais cliniques en Syrie. Le renforcement des capacités de recherche en Syrie, notamment à travers des partenariats internationaux, est essentiel pour combler ces lacunes urgentes et offrir aux patients un avenir porteur d'espoir.

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ABSTRACT 22:

CORRELATION BETWEEN PREOPERATIVE BREAST ULTRASOUND TUMOR SIZE AND FINAL PATHOLOGY IN BREAST CANCER PATIENTS: A SINGLE-CENTER RETROSPECTIVE STUDY IN LEBANON

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: The primary objective was to evaluate the accuracy of preoperative breast ultrasound in predicting tumor size compared to the gold standard of the final pathology specimen. Secondary objectives included assessing whether accuracy varied according to tumor subtype, histology, or tumor size category.

Methods: This was a retrospective single-center study conducted at *Hôtel-Dieu de France*, including more than 100 women diagnosed with resectable infiltrating breast carcinoma during the past year. All patients underwent preoperative breast ultrasound followed by surgical resection with pathology reports available for review. Tumor sizes measured by ultrasound were compared with corresponding pathological measurements. Ultrasound is the most widely available imaging tool for breast cancer staging in Lebanon, where accurate tumor sizing is essential for optimal surgical planning, particularly in decisions between lumpectomy and mastectomy. Discrepancies are more likely in lobular histology, multifocal disease, and dense breasts. Notably, few data are available from Lebanese or Middle Eastern populations, highlighting the relevance of this study.

Results: The analysis of the correlation between ultrasound-measured and pathology-confirmed tumor sizes, as well as subgroup comparisons across histological and molecular subtypes, will be presented.

Conclusions: This study provides real-world evidence on the reliability of ultrasound in preoperative breast cancer assessment in a Lebanese cohort. The results and clinical implications for surgical decision-making will be discussed in detail during the FRON assembly.

Abstract - French:

Objectifs : L'objectif principal était d'évaluer la précision de l'échographie mammaire préopératoire dans l'estimation de la taille tumorale par rapport au standard de référence qu'est l'examen anatomopathologique. Les objectifs secondaires incluaient l'évaluation de la variation de cette précision selon le sous-type tumoral, l'histologie et la catégorie de taille tumorale.

Méthodes : Il s'agit d'une étude rétrospective monocentrique menée à l'Hôtel-Dieu de France, incluant plus de 100 patientes atteintes de carcinome mammaire infiltrant résécable durant l'année écoulée. Toutes les patientes ont bénéficié d'une échographie mammaire préopératoire suivie d'une chirurgie avec analyse anatomopathologique. Les mesures échographiques des tumeurs ont été comparées aux dimensions rapportées en pathologie. L'échographie représente l'outil d'imagerie le plus largement utilisé au Liban pour le bilan du cancer du sein. Une estimation précise de la taille tumorale est essentielle pour la planification chirurgicale, notamment dans le choix entre tumorectomie et mastectomie. Les divergences sont particulièrement attendues dans les carcinomes lobulaires, les tumeurs multifocales et les seins denses. Les données publiées issues de cohortes libanaises ou moyen-orientales restent limitées, ce qui souligne l'intérêt de cette étude.

Résultats : L'analyse de la corrélation entre la taille mesurée par échographie et celle confirmée par la pathologie, ainsi que les comparaisons selon les sous-groupes histologiques et moléculaires, sera présentée.

Conclusion : Cette étude apporte des données issues de la pratique réelle sur la fiabilité de l'échographie dans l'évaluation préopératoire du cancer du sein au Liban. Les résultats et leurs implications cliniques pour la prise de décision chirurgicale seront détaillés lors de l'assemblée du FRON.

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ABSTRACT 23:

GENOMIC PROFILING OF BLADDER CANCER IN WATERPIPE AND CIGARETTE SMOKERS: IMPLICATIONS FOR CARCINOGENICITY AND GENETIC LANDSCAPE

Categories: 3- Basic Research

Abstract - English:

Objectives: Bladder cancer (BC) is a significant malignancy worldwide. While cigarette smoking is the leading modifiable risk factor, the contribution of waterpipe smoking (WPS), increasingly popular and often misperceived as safer, remains unclear. In 2019, Lebanese males had the highest BC incidence in the Arab world (five times the global average), prompting an investigation into WPS as a potential carcinogen. This study analyzes the genomic and mutational profiles of BC in waterpipe versus cigarette smokers.

Methods: We performed cross-sectional genomic analysis of exclusive WPS patients with urothelial carcinoma (UC) treated at the American University of Beirut Medical Center, integrating targeted sequencing (MSK-IMPACT®) and whole-exome sequencing (TEMPO pipeline). Tumor mutational burden (TMB), microsatellite instability, mutational signatures, and oncogenic alterations were assessed. Previously profiled BC tumors from cigarette smokers and never-smokers at Memorial Sloan Kettering Cancer Center served as comparators. Genomic features were compared across cohorts using $p < 0.05$ and Benjamini-Hochberg correction ($q < 0.1$).

Results: Fourteen WPS patients were enrolled; MSK-IMPACT® successfully profiled 13 tumors. Genomic patterns resembled those of cigarette smokers. WPS tumors exhibited a numerically higher median TMB (20 vs. 11 mut/Mb; $p = 0.10$, $q = 0.3$), with 38.5% classified as MSS-hypermutated. Common mutations included TERT promoter (62%), TP53 and FGFR3 (46%), and PIK3CA (38%). Chromatin-modifying gene alterations were less frequent. APOBEC mutational signatures predominated across all cohorts, with no significant differences. PD-L1 expression was low.

Conclusions: BC in waterpipe smokers shares genomic features with cigarette-related BC, reinforcing concerns about WPS-associated carcinogenicity. These findings support the inclusion of WPS in tobacco-related cancer prevention strategies.

Abstract - French:

Objectifs : Le cancer de la vessie (CV) est un problème majeur de santé publique. Bien que le tabagisme par cigarette demeure le principal facteur de risque modifiable, l'impact du tabagisme par narguilé (TN) reste mal défini. En 2019, les hommes libanais présentaient l'incidence de CV la plus élevée du monde arabe (cinq fois supérieure à la moyenne mondiale), motivant l'exploration du TN comme cancérogène potentiel. Cette étude compare les profils génomiques et mutationnels du CV chez les fumeurs exclusifs de narguilé et de cigarette.

Méthodes : Nous avons mené une analyse génomique transversale de patients atteints de carcinome urothélial traités à l'Université Américaine de Beyrouth, par séquençage ciblé (MSK-IMPACT®) et exome entier (pipeline TEMPO). Les tumeurs de fumeurs de cigarette et de non-fumeurs profilées à Memorial Sloan Kettering ont servi de comparateurs ($p<0,05$; correction de Benjamini-Hochberg $q < 0,1$).

Résultats : Quatorze patients TN ont été inclus ; 13 tumeurs ont été analysées avec succès. Les profils génomiques étaient similaires à ceux observés chez les fumeurs de cigarette. Les tumeurs TN présentaient une charge mutationnelle médiane numériquement plus élevée (20 vs 11 mut/Mb ; $p = 0,10$; $q = 0,3$), avec 38,5 % classées MSS-hypermutées. Les mutations fréquentes concernaient le promoteur TERT (62 %), TP53 et FGFR3 (46 %), et PIK3CA (38 %). Les altérations des gènes modificateurs de la chromatine étaient moins fréquentes. Les signatures mutationnelles APOBEC dominaient dans tous les cohortes, sans différence significative. L'expression de PD-L1 était faible.

Conclusions : Le CV lié au TN partage les caractéristiques génomiques du CV associé à la cigarette, renforçant les inquiétudes quant à sa cancérogénicité et soutenant son inclusion dans les stratégies de prévention liée au tabac.

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ABSTRACT 24:

CLINICOPATHOLOGICAL AND PROGNOSTIC IMPLICATIONS OF EPITHELIAL-TO-MESENCHYMAL TRANSITION-RELATED IMMUNOHISTOCHEMICAL MARKERS IN RESECTABLE PANCREATIC CANCER: A RETROSPECTIVE LONGITUDINAL STUDY

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Pancreatic ductal adenocarcinoma (PDAC) is the sixth leading cause of global cancer mortality. Epithelial-to-mesenchymal transition (EMT) is a key driver of early progression and metastasis in PDAC. Our study aimed to investigate the correlation between EMT marker expression and survival outcomes in patients with resectable PDAC.

Methods: We conducted a retrospective longitudinal study on 135 patients diagnosed with resectable PDAC between January 2005 and June 2019, with a 5-year follow-up for survival analysis. Immunohistochemical staining was performed to assess the percentage of cells stained with E-cadherin and Vimentin, along with their expression levels. Survival predictors were assessed using Cox regression. Kaplan-Meier curves were generated to evaluate overall survival (OS) and disease-free survival (DFS), and group differences were analyzed using the log-rank test ($p < 0.05$).

Results: Cox regression identified Vimentin expression, positive surgical margins, and absence of metformin intake as independent predictors of poor OS. High Vimentin expression was associated with significantly lower median OS (17.0±4.4 vs. 25.8±2.3 months, p = 0.037) and DFS (8.6±1.2 vs. 13.0±2.3 months, p = 0.014), and correlated with higher tumor grade (p = 0.028) and metastasis rate (p = 0.032). The poorest outcomes were observed with high Vimentin and low E-cadherin expression (median OS 12.6±4.7 vs. 24.5±2.1 months, p = 0.038; median DFS 9.5±0.5

vs. 10.8±2.1 months, p = 0.029), compared to the rest of the population.

Conclusions: Vimentin overexpression and EMT-related changes are strongly associated with poor OS and DFS in resectable PDAC. These findings highlight their potential as prognostic biomarkers and therapeutic targets in pancreatic cancer.

Abstract - French:

Objectifs : L'adénocarcinome canalaire pancréatique (ACP) constitue la sixième cause de mortalité par cancer. La transition épithélio-mésenchymateuse (TEM) joue un rôle clé dans la progression précoce et la dissémination métastatique. Cette étude visait à évaluer la corrélation entre l'expression des marqueurs de TEM et la survie chez des patients atteints d'ACP résécable.

Méthodes : Nous avons mené une étude rétrospective longitudinale portant sur 135 patients diagnostiqués avec un ACP résécable entre janvier 2005 et juin 2019, avec un suivi de 5 ans. L'immunohistochimie a permis d'évaluer l'expression de l'E-cadhérine et la Vimentine. Les facteurs prédictifs de survie ont été étudiés par régression de Cox. Les courbes de Kaplan-Meier ont estimé la survie globale (SG) et la survie sans maladie (SSM), avec comparaison par log-rank ($p < 0,05$).

Résultats : La régression de Cox a identifié l'expression de la Vimentine, les marges chirurgicales positives et l'absence de prise de metformine comme prédicteurs indépendants de mauvaise SG. Une forte expression de la Vimentine était associée à une SG médiane réduite (17,0±4,4 vs 25,8±2,3 mois ; p = 0,037) et à une SSM plus courte (8,6±1,2 vs 13,0±2,3 mois ; p = 0,014), ainsi qu'à un grade tumoral élevé (p = 0,028) et un taux de métastases accru (p = 0,032). Les pires résultats concernaient les patients avec forte Vimentine et faible E-cadhérine (SG médiane 12,6±4,7 vs 24,5±2,1 mois ; p = 0,038).

Conclusion : La surexpression de la Vimentine et les altérations liées à la TEM sont fortement associées à une SG et une SSM défavorables, suggérant leur valeur comme biomarqueurs pronostiques et cibles thérapeutiques potentielles dans l'ACP.

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ABSTRACT 25:

CLINICAL AND SURVIVAL OUTCOMES IN MUSCLE-INVASIVE BLADDER CANCER PATIENTS UNDERGOING BLADDER PRESERVATION VERSUS RADICAL CYSTECTOMY

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Objectives: Muscle-invasive bladder cancer (MIBC) is aggressive. Radical cystectomy (RC) is standard treatment but compromises quality of life. Bladder preservation via trimodality therapy (maximal TURBT, chemotherapy, radiotherapy) shows comparable outcomes in retrospective studies, though prospective data remain limited. This study evaluates clinical and survival outcomes of MIBC patients treated with different approaches in a prospective setting.

Methods: We conducted a prospective observational study of non-metastatic MIBC patients (T2-4N0-3M0) at the American University of Beirut Medical Center. Pathologic complete response (pCR) was defined as T0/Ta, and near-pCR as T1. Overall survival (OS) and disease-free survival (DFS) were analyzed using Kaplan-Meier curves and log-rank tests ($p < 0.05$).

Results: Among 40 patients (mean age 69.0; 87.5% male), all had high-grade transitional cell carcinoma; 22 (55.0%) were stage II, and 31 (77.5%) had *de novo* MIBC. Treatment included neoadjuvant therapy (n = 26), followed by chemoradiation (n = 9), RC (n = 9), or no further treatment (n = 8); upfront chemoradiation (n = 9); upfront RC (n = 5); and partial cystectomy (n = 1). Neoadjuvant + chemoradiation yielded numerically higher OS (22.9 vs. 22.2 months, p = 0.386) and DFS (22.2 vs. 13.5 months, p = 0.388) than neoadjuvant + RC. Of 17 patients completing neoadjuvant therapy with disease evaluation, 11 (64.7%) achieved pCR/near-pCR; 8 received chemoradiation, 3 underwent RC. Among complete responders in the chemoradiation group, bladder-intact DFS at 18 months was 87.5%, with two cases of progression (at 9.4 and 22.4 months).

Conclusions: Chemoradiation after neoadjuvant therapy showed comparable survival and promising bladder-intact DFS among responders. These findings support integrating bladder preservation into MIBC management.

Abstract-French:

Objectifs : Le carcinome urothélial infiltrant le muscle (CUIM) est une tumeur agressive. La cystectomie radicale (CR) est le traitement standard, mais altère souvent la qualité de vie. La préservation vésicale par thérapie trimodale (résection transurétrale maximale, chimiothérapie, radiothérapie) a montré des résultats comparables dans des études rétrospectives, bien que les données prospectives soient limitées. Cette étude évalue prospectivement les résultats cliniques et de survie chez des patients CUIM selon différentes approches thérapeutiques.

Méthodes : Étude observationnelle prospective menée chez des patients CUIM non métastatiques (T2-4N0-3M0). La réponse complète pathologique (RCP) était définie comme T0/Ta, et la quasi-RCP comme T1. La survie globale (SG) et sans maladie (SSM) ont été analysées par Kaplan-Meier et test du log-rank ($p < 0,05$).

Résultats : Parmi 40 patients (âge moyen 69 ans ; 87,5 % hommes), tous avaient un carcinome urothélial de haut grade. Les traitements incluaient : néoadjuvant (n = 26) suivi de chimioradiothérapie (n = 9), CR (n = 9), ou aucun traitement (n = 8) ; chimioradiothérapie initiale (n = 9) ; CR initiale (n = 5) ; cystectomie partielle (n = 1). La combinaison néoadjuvant + chimioradiothérapie offrait une SG (22,9 vs 22,2 mois, $p = 0,386$) et une SSM (22,2 vs 13,5 mois, $p = 0,388$) supérieures à néoadjuvant + CR. Parmi les 17 patients évalués, 11 (64,7 %) ont atteint une RCP/quasi-RCP. Chez les répondeurs sous chimioradiothérapie, la SSM avec vessie intacte à 18 mois était de 87,5 %, avec deux cas de progression (à 9,4 et 22,4 mois).

Conclusion : La chimioradiothérapie post-néoadjuvante montre une survie comparable et une préservation vésicale prometteuse, soutenant son intégration dans la prise en charge du CUIM.

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ABSTRACT 26:

EPIDEMIOLOGY OF STOMACH CANCER OVER A TWO-YEAR PERIOD: EXPERIENCE OF THE MEDICAL ONCOLOGY DEPARTMENT AT EPH SIDI GHILES, ALGERIA

Categories: 1- Clinical Research in Solid Tumors

Abstract - English:

Stomach cancer represents a serious public health problem in Algeria due to its often late diagnosis, its rapidly progressive nature, and its metastatic potential.

The objective is to determine the incidence of this cancer and to describe its characteristics.

Method: This is a retrospective study that collected data from 56 patients managed in the Department of Medical Oncology at EPH Sidi Ghiles between January 2022 and December 2023.
The mean age was 63 years, with a male-to-female sex ratio = 2.5, with a peak incidence between 65 and 74 years.
The main presenting symptoms were predominantly epigastric pain (61%), vomiting (53%), weight loss (48%), and gastrointestinal bleeding (32%).
Among the risk factors, a history of smoking was reported in 30% of patients, and a family history of cancer in 28%.
Regarding comorbidities, 22% were diabetic and 17% were hypertensive.
The most common histological type was signet-ring cell adenocarcinoma (28%) and Helicobacter pylori infection was found to be positive in 25% of cases.
In terms of tumor location, the antrum-pylorus was the most frequently involved site (37%).
At diagnosis, 62% of patients already had metastatic disease, and only 8% underwent primary surgery.
The overall survival rate was 50.9% at 12 months and 27.4% at 24 months.
Gastric cancer is associated with a poor prognosis; systematic screening for familial cancer cases and Helicobacter pylori infection should be implemented in order to reduce the incidence of this disease.

Abstract - French:

Le cancer de l'estomac constitue un sérieux problème de santé publique en Algérie à cause de son diagnostic souvent tardif, son caractère rapidement évolutif et son pouvoir métastatique.

L'objectif est de déterminer l'incidence de ce cancer et d'en décrire les caractéristiques.

Méthode : Il s'agit d'une étude rétrospective ayant collecté les données de 56 patients pris en charge dans le service d'oncologie médicale de l'EPH Sidi Ghiles entre janvier 2022 et décembre 2023.
L'âge moyen était de 63 ans avec un sex-ratio H/F de 2.5, avec un pic de fréquence entre 65 et 74 ans.
Les circonstances de découverte sont majoritairement dominées par les épigastralgies (61 %), les vomissements (53 %), l'amaigrissement (48 %), et les hémorragies digestives (32 %).
Parmi les facteurs de risque, la notion de tabagisme était présente dans 30% et un antécédent de cancer familial dans 28 %.
Pour les antécédents personnels ; 22 % étaient diabétiques et 17 % étaient hypertendus.
Le type histologique le plus souvent trouvé était l'Adénocarcinome indépendant en bague à chaton (28 %), et l'hélicobacter pylori était retrouvé positif dans 25 % des cas.
Selon le siège tumoral, l'antre pylorique était le siège le plus fréquemment retrouvé (37 %).
Au moment du diagnostic, 62 % des patients étaient déjà en situation métastatique, et seulement 8 % des patients avaient subi une chirurgie première.
La survie globale à 12 mois était de 50.9 % et de 27.4 % à 24 mois.
Le cancer de l'estomac est un cancer de mauvais pronostic, le dépistage des cas familiaux de cancers et de l'infection à HP+ devrait se faire systématiquement afin de diminuer l'incidence de ce cancer.

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