AMSC 2024

ABSTRACT BOOK

18th edition

9th - 12th September 2024

ABOUT US

Welcome to the **Antwerp Medical Students' Congress** (AMSC), a premier international gathering that takes place annually in the enchanting city of **Antwerp, Belgium**, right in the heart of Europe. With roots dating back to its very first edition in **2007**, AMSC has developed into a prestigious event that attracts students from different corners of the world. Specially tailored for students aspiring to a career in the **(para)medical field**, including medicine, pharmacy, dentistry, biomedical sciences and nursing, AMSC offers a unique congress to exchange knowledge and experiences.

AMSC is a project orchestrated by the Student Committee for Medical Education (SCOME), organised by dedicated members of the **European Medical Students Association Antwerp** (EMSA Antwerp). Our association is proudly affiliated with the International Federation of Medical Students' Associations (IFMSA) through the Belgian Medical Students' Association (BeMSA).

AMSC - Antwerp Medical Students' Congress

PREFACE

Dear participant,

It is with great pleasure that we welcome you to the **18th edition of the Antwerp Medical Students' Congress!**

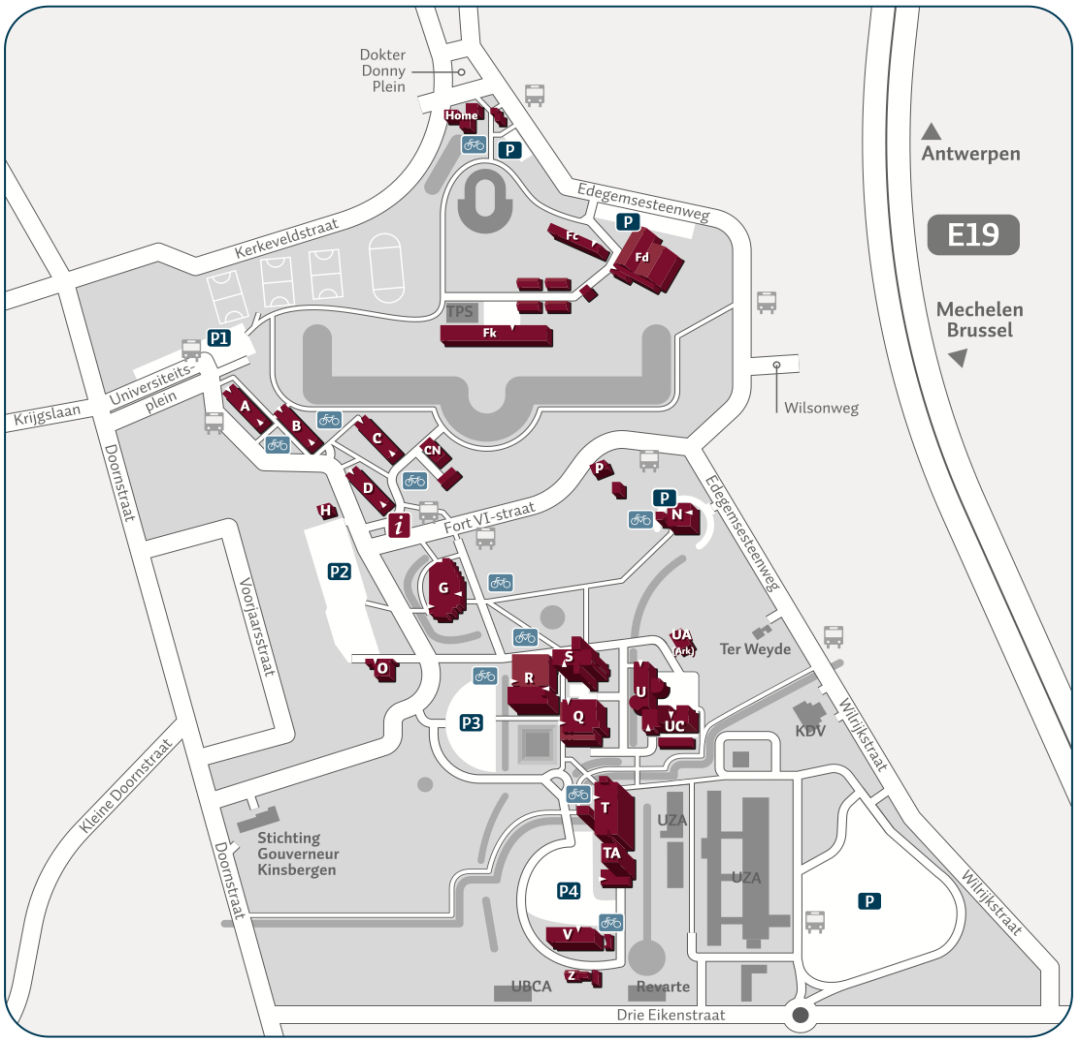
Every single year, when hosting the Antwerp Medical Students' Congress, we intend to attract a wonderful group of (para)medical students. Already in the registration and preparation phases of this event, we were astonished by your interest and commitment. It promises to be an educational and inspirational experience with young, ambitious, and passionate scientists.

Right now, we can proudly present to you our 2024 edition. We hope for it to be a platform to discuss research conducted by fellow students from all over the world, a place where you can get to know the most innovative and interesting topics in Belgian and international medicine and most of all, an opportunity to make valuable connections for your future careers.

We hope to play a part in broadening your scope of medical knowledge and to give you a chance to get some first-hand experience in lesser-known topics.

The organising team of the AMSC 2024.

MAP OF THE CAMPUS



Campus Drie Eiken

Onthaal ..... D

Faculteit FBD
- Decanaat ..... S
- Dept. Biomedische Wetenschappen ..... S-T-UC
- Dept. Diergeneeskunde ..... U-UC
- Dept. Farmaceutische Wetenschappen ..... A-S-T
- VIB8 Moleculaire Genetica V
- Bio-Imaging Lab ..... UC

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- Centrum Huisartsgeneeskunde (CHA) ..... R
- Epidemiologie en Sociale Geneeskunde (ESOC) ..... R
- VAXINFECTIO ..... R-S
- (Kinder- en Jeugd) Psychiatrie - CAPRI ..... R
- Verpleeg- en Vroedkunde ..... R
- Experimentele Geneeskunde en Pediatrie (LEMP) ..... T
- Born Bunge Instituut ..... T
- Centrum voor Oncologie ..... T
- Molecular Imaging Center Antwerp (MICA) ..... UC

Faculteit Wetenschappen
- Dept. Biologie ..... B-C-H
- Dept. Chemie ..... B-C
- Dept. Fysica ..... N

Leslokalen ..... A-B-D-R-S-N
Practica ..... A-B-C-S-T-TA
Computerklassen ..... R
Aula Fernand Nédée ..... Q
IOIW/CNO ..... D

Dept. Sociale, Culturele en Studentgerichte Diensten (SCS)
- Centraal kotwebsecretariaat ..... G
- Socio-culturele Dienst ..... G
- Studentenbegeleiders ..... G

Restaurant Den Eik ..... G
Bistro Clubke ..... G
Cafetaria ..... G
Studentenhome ..... Home
Campusbibliotheek ..... R

Centraal magazijn ..... A
Dept. ICT ..... D
- Nieuwe Media Dienst ..... D

Dept. Infrastructuur
- Cursusdienst ..... D
- Technische Dienst ..... D
- Werkplaatsen ..... B-Z

Milieudienst ..... D
PBW ..... D
Sporthal ..... Fd
Konijnenpijp ..... Fk
Palliatieve Hulpverlening Antwerpen ..... Fc
ASK-Stuwer ..... Fc
Instituut voor Milieukunde ..... P
Animalarium ..... U
Leonardo Lyceum (Topsportschool) ..... TPS

Universiteit Antwerpen

SCHEDULE

Lecture session	Parallel workshop sessions	Active participant presentations	Social activity	Ceremony	Break

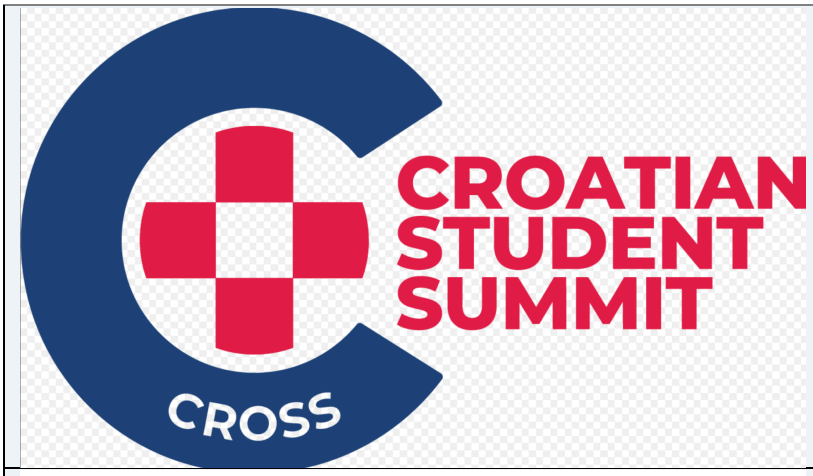
Start	End	Mon 9 Sep	Tue 10 Sep	Wed 11 Sep	Thu 12 Sep	Start	End
08:15	08:30		Morning registrations (Hallway of building O)	Morning registrations (Hallway of building O)	Morning registrations (Hallway of building O)	08:15	08:30
08:30	08:45					08:30	08:45
08:45	09:00					08:45	09:00
09:00	09:15		Opening ceremony (Auditorium O.5)	Presentation session 4: Orals (Auditorium O.7)	Presentation session 6A: Posters (hallway above O.5) / Presentation session 6B: Posters (hallway above O.7) / Presentation session 6C: Orals (auditorium O.6)	09:00	09:15
09:15	09:30		Opening lecture on pulmonary hypertension by prof. dr. Steven Haine (Auditorium O.5)			09:15	09:30
09:30	09:45					09:30	09:45
09:45	10:00					09:45	10:00
10:00	10:15					10:00	10:15
10:15	10:30		Break	Break	Break	10:15	10:30
10:30	10:45		Presentation session 1: Posters (Hallway above O.5)	Presentation session 5: Orals (Auditorium O.7)	Keynote lecture on the treatment of orofacial clefts by prof. dr. Nasser Nadjmi (Auditorium O.5)	10:30	10:45
10:45	11:00					10:45	11:00
11:00	11:15					11:00	11:15
11:15	11:30					11:15	11:30
11:30	11:45		Break	Break	Break	11:30	11:45
11:45	12:00		Presentation session 2: Orals (Auditorium O.7)	Keynote lecture on developments in diagnosis and treatment of dementia by prof. dr. Patrick Cras (Auditorium O.5)	Presentation session 7A: Posters (hallway above O.5) / Presentation session 7B: Posters (hallway above O.7) / Presentation session 7C: Orals (auditorium O.6)	11:45	12:00
12:00	12:15	International student arrivals				12:00	12:15
12:15	12:30					12:15	12:30
12:30	12:45					12:30	12:45
12:45	13:00		Included lunch and partner promotion (Hallway of building O)	Included lunch and partner promotion (Hallway of building O)	Included lunch and partner promotion (Hallway of building O)	12:45	13:00
13:00	13:15					13:00	13:15
13:15	13:30					13:15	13:30
13:30	13:45		Presentation session 3A: Posters (Hallway above O.5) / Presentation session 3B: Orals (Auditorium O.7)	Workshop period 2: - Clinical reasoning - Pandemic preparedness - Skinflaps - Taking care of children with IDs	Workshop period 4: - Clinical reasoning - da Vinci robot - Gynaecology	13:30	13:45
13:45	14:00					13:45	14:00
14:00	14:15					14:00	14:15
14:15	14:30					14:15	14:30
14:30	14:45				Workshop period 6: - Art of facial reconstruction	14:30	14:45
14:45	15:00		Break	Break	Break	14:45	15:00
15:00	15:15		Workshop period 1 : - Forensic medicine - Dermatoscopy - Emergency medicine - Mindfulness - Maternal vaccination	Workshop period 3: - Clinical reasoning - Pandemic preparedness - Skinflaps - Taking care of children with IDs - ECG	Workshop period 5: - Clinical reasoning - da Vinci robot - Gynaecology - Healthcare after sexual violence	15:00	15:15
15:15	15:30					15:15	15:30
15:30	15:45					15:30	15:45
15:45	16:00					15:45	16:00
16:00	16:15	City tour (Antwerp city centre)				16:00	16:15
16:15	16:30		Free time (time for commuting, having dinner, etc.)	Free time (time for commuting, having dinner, etc.)	Break	16:15	16:30
16:30	16:45				Keynote lecture on delirium: current developments and medical management by prof. dr. Filip Van Den Eede (Auditorium O.5)	16:30	16:45
16:45	17:00					16:45	17:00
17:00	17:15					17:00	17:15
17:15	17:30					17:15	17:30
17:30	17:45				Awards and closing ceremony (Auditorium O.5)	17:30	17:45
17:45	18:00					17:45	18:00
18:00	18:15	Free time			Free time (time for commuting, etc.)	18:00	18:15
18:15	18:30					18:15	18:30
18:30	18:45					18:30	18:45
18:45	19:00					18:45	19:00
19:00	19:15		Cluedo city game (Antwerp city centre)	Karaoke night (JOYT - Noorderlaan 33, 2030 Antwerpen)		19:00	19:15
19:15	19:30					19:15	19:30
19:30	19:45					19:30	19:45
19:45	20:00				Closing dinner (Ellis Gourmet Burger Eilandje - Sint-Aldegondiskaai 52, 2000 Antwerpen)	19:45	20:00
20:00	20:15					20:00	20:15
20:15	20:30					20:15	20:30
20:30	20:45					20:30	20:45
20:45	21:00					20:45	21:00
21:00	21:15					21:00	21:15
21:15	21:30					21:15	21:30
21:30	21:45					21:30	21:45
21:45	22:00					21:45	22:00

COLLABORATORS

UZA	We would like to thank the University Hospital of Antwerp (UZA) for their support. In addition to financial support, there are so many doctors and professors who are committed to the AMSC by organising a lecture or workshop. We sincerely hope we can continue our cooperation in the future to provide the medical knowledge to international medical students. Without the UZA, we would not be able to organise this yearly event.
University of Antwerp	We are extremely grateful for the support that we have received from the University of Antwerp. Their staff members are always ready to help us with practical issues and we are excited to have some of our best professors speaking at the AMSC 2022.
EMSA EUROPEAN MEDICAL STUDENTS' ASSOCIATION ANTWERPEN	EMSA Antwerp is the parent organisation of whom the AMSC is a project. Our team members are active members of EMSA Antwerp and the first prizes in our research competition are sponsored by EMSA Antwerp. We are grateful for their support in the organisation of this event.

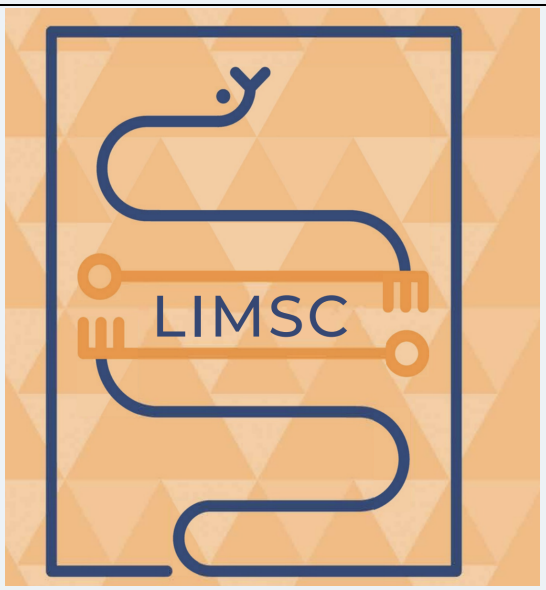
PARTNERS

AIMS MEETING	**AIMS Meeting** 16- 19 April 2024 Lisbon, Portugal
BIMCO Chernivtsi Bukovinian International Medical Congress	**BIMCO** 2-5 April 2024 Chernivtsi, Ukraine
BRAINCOMS BRAZILIAN INTERNATIONAL CONGRESS OF MEDICAL STUDENTS	**BRAINCOMS** 7-9 November 2024 São Paulo, Brazil

	**CROSS 19** 9 - 12 April 2024 Zagreb, Croatia
	**ICHAMS** 15-17 February 2024 Dublin, Ireland
	**ICMS** 25-28 April 2024 Sofia, Bulgaria

ICOCIMS INTERNATIONAL STUDENT CONGRESS ON CLINICAL INNOVATION AND MEDICAL SCIENCES	**ICOCIMS** 7-9 November Parma, Italy
iMED CONFERENCE® 16.0	**iMed Conference** 7th to 13th october Lisbon, Portugal
IMEDSCOP 2024	**IMEDSCOP** 28 March 2024 Poltava, Ukraine
IMSC 2024	**IMSC** 16-18 May 2024 Krakow, Poland

	**In4Med** 8-11 April 2024 Coimbra, Portugal
	**ISC** 6-10 October 2024 Graz, Austria

	**ISCOMS** 3-7 June 2024 Groningen, The Netherlands
	**LIMSC** 14-18 May 2025 Leiden, The Netherlands
	**JUVENES PRO MEDICINA** 9-11 May 2024 Lodz, Poland
	**MedEspera** 24-27 April 2024 Chișinău, Moldavia

Medicalis	**Medicalis Congress** 14-17 March 2024 Cluj-Napoca, Romania
MEDICS	**MEDICS** 11-14 April 2024 Bucharest, Romania
MOSA MAASTRICHT HASSELT	**MOSA** 25-26 June 2024 Maastricht University, the Netherlands
OSCON OSIJEK STUDENT CONGRESS	**OSCON** 4-6 April 2024 Osijek, Croatia

	**Plexus** December 7th, 2024, Zagreb, Croatia
	**SURGICON** October 31st - November 3rd Bucharest, Romania
	**YES MEETINGS** 19-22 September 2024 Porto, Portugal
	**ZIMS** 14-17 December 2023 Zagreb, Croatia

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- **Professor of Neurology** at the **University of Antwerp (UA)**
- **Chair** of the **Ethics Committee** at both UZA and UA
- Research areas include **dementia**, **Creutzfeldt-Jakob disease**, and **biomarkers in neurodegenerative diseases**.
- He has published extensively on neurodegenerative disorders and plays a significant role in Belgian healthcare policy committees

Prof. Dr. Inez Rodrigus

- **Head of Cardiac Surgery** at **Antwerp University Hospital (UZA)**
- **Professor of Cardiac Surgery** at the **University of Antwerp (UA)**
- She is also associated with the **Antwerp Surgical Training, Anatomy and Research Centre (ASTARC)**, where she focuses on surgical innovation and training

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- **Professor of Pediatrics** at **University of Antwerp (UA)**
- **Researcher** at the **Laboratory of Experimental Medicine and Pediatrics (LEMP)** with a focus on pediatric nephrology, nephro-urological diseases, and transplantation

Prof. Dr. Annemiek Snoeckx

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- **Professor of Radiology** at the **University of Antwerp (UA)**

- She is a leading figure in radiology and part of the **Molecular Morphology - Microscopy (mVISION)** group, specializing in imaging for oncology

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- Involved in training medical students and overseeing pathology research

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- She focuses on **primary care research**, **public health**, and **family medicine education**

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- **Post-doctoral researcher** at the **University of Antwerp (UA)**
- **Researcher** in **Translational Neurosciences**, focusing on **sleep disorders** and **neurocognitive dysfunctions**

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- **Neurologist** at **Antwerp University Hospital (UZA)**
- **Professor of Neurology** at **University of Antwerp (UA)**
- Specializes in **stroke care**, **teleneurology**, and **neurovascular research**, with a focus on innovative healthcare delivery

Prof. Dr. Pierre Van Damme

- **Professor of Vaccinology and Public Health** at the **University of Antwerp (UA)**
- **Coordinator** of **Centre for the Evaluation of Vaccination**

- Involved in **global vaccination campaigns** and research into **infectious diseases**, especially vaccines for hepatitis B, influenza, and HPV

Prof. Dr. Frank Van Glabbeek

- **Orthopedic Surgeon** at **Antwerp University Hospital (UZA)**
- **Professor of Orthopedic Surgery** at the **University of Antwerp (UA)**
- His expertise includes **trauma surgery**, **sports injuries**, and **joint replacements**

Prof. Dr. Koen Monsieurs

- **Emergency Physician** at **Antwerp University Hospital (UZA)**
- **Professor of Emergency Medicine** at the **University of Antwerp (UA)**
- A key figure in **resuscitation science**, he has contributed to **international guidelines on CPR**

Prof. Dr. Paul Van Schil

- **Head of Thoracic and Vascular Surgery** at **Antwerp University Hospital (UZA)**
- **Professor of Thoracic Surgery** at the **University of Antwerp (UA)**
- Known for his work in **lung cancer surgery** and **minimally invasive techniques**

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- **Geneticist** at **Antwerp University Hospital (UZA)**
- **Professor of Medical Genetics** at the **University of Antwerp (UA)**
- Researches **genetic disorders** and **hereditary diseases**, including the **genetics of mood disorders**

Prof. Dr. Anneclaire Vroegop

- **ENT specialist** at **Antwerp University Hospital (UZA)**
- **Professor of Otorhinolaryngology** at the **University of Antwerp (UA)**
- Focuses on **hearing loss**, **cochlear implants**, and **innovations in ENT treatments**

Prof. Dr. Filip Van Den Eede

- **Psychiatrist** at **Antwerp University Hospital (UZA)**
- **Professor of Psychiatry** at the **University of Antwerp (UA)**
- Specializes in **stress-related disorders**, **trauma**, and **resilience research**

Dr. Kristien Ledeganck

- **Post-doctoral researcher** at the **University of Antwerp (UA)**
- Associated with **Translational Research in Immunology and Inflammation (TWI2N)**, focusing on **nephrology and organ transplantation**

Dr. Katleen Janssens

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- Works on projects related to **genomics**, **molecular biology**, and **cancer research**

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- **PhD candidate** at the **University of Antwerp (UA)**
- His research focuses on **neurodegenerative diseases** and **biomarker discovery** in **neurology**

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- Specializes in **public health**, **family medicine**, and **epidemiological studies**

PhD candidate Ivana Gorbašlieva

- **PhD candidate** at the **University of Antwerp (UA)**
- Works within the **Translational Neurosciences**, researching **neurobiology** and **brain health**

We would like to thank all the members of our scientific board extensively and heartily for their share in the reading and judging of all the submitted abstracts. Due to their aid and effort the best and the most interesting research will once again be presented during the active days of the AMSC 2020. They have donated their time voluntarily - and freely - to help us create this new edition of our congress. We are extremely grateful to be able to collaborate on such a level and hope to extend our cooperation to future editions.

ABSTRACTS

Pregnant woman with status epilepticus - challenges in treatment

Authors: Agnieszka Murawska, , Justyna Prorok, Julia Blacharska, Krzysztof Zachwieja, Edward Pędziwiatr, Julia Hypnar, Jakub Pośpiech, Magdalena Bosak

Domain: Neurology

Abstract:

Introduction: This report presents a case of status epilepticus (SP) in a 38-year-old pregnant woman. The patient was diagnosed with drug-resistant epilepsy in childhood and has been treated with a variety of antiepileptic drugs since then. Remission was achieved with polytherapy comprising valproate, lacosamide and topiramate.

Case history: Due to the patient's pregnancy planning, previous treatment was modified to monotherapy with lamotrigine. Two months later, a recurrence of epileptic seizures was observed in a patient who was then three weeks pregnant.

Investigations: In the eleventh week of pregnancy, the patient was admitted to the neurology ward due to the occurrence of seizure clusters. Following admission, several epileptic seizures were observed within an hour. After performing EEG and MRI the diagnosis of focal status epilepticus was made. Additionally, ataxia of the left limbs was observed. Seizures persisted throughout the hospitalization.

Treatment/Results: During the hospitalization the treatment plan was adjusted accordingly to the concentration of antiepileptic drugs in the serum and seizures frequency. Partial remission was achieved with polytherapy comprising levetiracetam, lamotrigine and lacosamide. The patient was subsequently discharged from the hospital. The frequency of epileptic seizures observed per day was approximately two until the end of pregnancy. The patient underwent a cesarean section at 36 weeks gestation. The Apgar score for the newborn was 9 out of 10.

Discussions/Differential Diagnosis: Epilepsy in pregnancy presents unique clinical challenges because of the impact of pregnancy-related changes in drug metabolism and the need to consider the risk of teratogenic effects of antiepileptic drugs. In such cases, it is important to select individual therapy in order to achieve the best possible seizure control and fetal safety.

References: R. Roberti et al., “Status epilepticus in pregnancy: a literature review and a protocol proposal,” Expert Review of Neurotherapeutics, vol. 22, no. 4. Taylor and Francis Ltd., pp. 301–312, 2022. doi: 10.1080/14737175.2022.2057224.
Patrick J Coppler and Jonathan Elmer, “Status Epilepticus: A Neurologic Emergency,” Criticial Care Clinics, vol. 39, no. 1, pp. 87–102, Jan. 2023.
Felix Rosenow and Catrin Mann, “Status epilepticus in pregnancy,” Epilepsy & behavior, Jan. 2023.
D. Malaiyandi, E. James, L. Peglar, N. Karim, N. Henkel, and K. Guilliams, “Neurocritical Care of the Pregnant Patient,” Current Treatment Options in Neurology, vol. 23, no. 7. Springer, Jul. 01, 2021. doi: 10.1007/s11940-021-00676-2.

Epileptic seizures in the course of primary cerebral vasculitis. A case report

Authors: Patryk Dąbrowski

Co-authors: Paweł Wrona

Domain: Neurology

Abstract:

Introduction: 51-year old female was admitted to the Emergency Department with focal seizure attacks followed by left limbs paresis and left hemianopia. Two days prior she developed an indolently progressive headache and fever.

Case history: During hospitalization, the patient presented seizure clusters followed by progression of the left-sided hemiparesis with sensory impairment in the left upper limb. Medical history revealed hypertension, diabetes type 2, Hashimoto's disease and chronic fatigue syndrome. Antiepileptic treatment was initiated (diazepam, valproate acid and levetiracetam). Cerebrospinal fluid analysis and tests for infectious diseases, autoimmune encephalitis and paraneoplastic antibodies were negative. Following magnetic resonance imaging (MRI), suspicion of cerebral vasculitis has been raised. The patient received immunosuppressive treatment consisting of corticosteroids followed by azathioprine. Subsequent to commencement of the treatment, neurological symptoms resolved completely within one day.

Investigations: MRI showed high T2 signal lesions within the right occipital lobe with subcortical contrast enhancement. The visualized lesions exhibited localized irregularities with tubercular margins and subtle asymmetric dural thickening within this area - radiological features indicative of cerebral vasculitis. During EEG examination seizure attack was recorded and confirmed by corresponding changes in the EEG recording.

Results: According to the 2023 European Stroke Organisation guidelines for primary cerebral vasculitis, diagnosis of the epileptic seizures in the course of primary cerebral vasculitis is the most likely.

Discussions:
Primary cerebral vasculitis occurs fewer than 1:2000000 in adult patients, manifesting with a wide range of symptoms. This case highlights the importance of considering primary cerebral vasculitis in patients with resistance to antiepileptic drugs. The correct diagnosis is crucial to ensure appropriate management and prevent unnecessary interventions associated with anti-seizure treatment.

References: 1. https://pubmed.ncbi.nlm.nih.gov/24491822/
a. Hajj-Ali RA, Calabrese LH. Diagnosis and classification of central nervous system vasculitis. J Autoimmun. 2014 Feb-Mar;48-49:149-52. doi: 10.1016/j.jaut.2014.01.007. Epub 2014 Feb 1. PMID: 24491822.
2. https://pubmed.ncbi.nlm.nih.gov/36324727/
a. Sánchez-Román E, Monternach-Aguilar F, Reyes-Vaca JG, Rodríguez Leyva I. Challenging presentation of primary vasculitis of the central nervous system. Cereb Circ Cogn Behav. 2021 Sep 8;2:100027. doi: 10.1016/j.cccb.2021.100027. Erratum in: Cereb Circ Cogn Behav. 2022 Mar 02;3:100130. Erratum in: Cereb Circ Cogn Behav. 2022 Jan 26;3:100038. PMID: 36324727; PMCID: PMC9616383.
3. https://jamanetwork.com/journals/jamaneurology/fullarticle/797208
a. Birnbaum J, Hellmann DB. Primary Angiitis of the Central Nervous System. Arch Neurol. 2009;66(6):704–709. doi:10.1001/archneurol.2009.76
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a. Pascarella R, Antonenko K, Boulouis G, et al. European Stroke Organisation (ESO) guidelines on

Primary Angiitis of the Central Nervous System (PACNS). European Stroke Journal. 2023;8(4):842-879. doi:10.1177/23969873231190431
5. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7349935/
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From Rarity to Reality: Unveiling Poland's First Case of Neurologic Erdheim-Chester Disease with Cerebellar Manifestations

Authors Kamil Możdżeń, Krzysztof Zachwieja, Julia Blacharska, Justyna Prorok, Konrad Kaleta, Agnieszka Murawska, Żaneta Chatys-Bogacka, Karolina Porębska, Małgorzata Dec-Ćwiek

Domain: Neurology

Abstract:

Erdheim-Chester Disease (ECD) is a rare non-Langerhans cell histiocytosis with approximately 1500 cases documented globally [1]. This case report presents a 39-year-old male G.G. knowledge worker, admitted to the neurology department with speech difficulties and progressive gait problems, who was later diagnosed with ECD. His symptoms began two years prior and included significant weight loss and a left tibial head fracture. Neurological examination revealed bilateral palm-chin reflex, mild right divergent strabismus, hypermetric saccadic eye movements, scanning speech, reduced muscle tone in the upper limbs, spasticity in the lower limbs, left limb ataxia, bilateral Rossolimo sign, broad-based unsteady gait, and difficulty with tandem-walking.

Investigations highlighted thickening of the dura mater, pituitary stalk, and cranial bones via magnetic resonance imaging (MRI), alongside increased intracortical inhibition from transcranial magnetic stimulation, suggestive of cerebellar dysfunction. Other diagnostic tests including electroencephalogram, electromyography, electroneurography, and echocardiogram were normal. Neuropsychometric assessment indicated minor cognitive impairments. Computed tomography scans revealed pleural fibrosis, interlobular septal thickening, and fibrosis in the kidneys and aorta, leading to a diagnosis of ECD confirmed by the BRAF V600E/V600Ec mutation. The patient commenced treatment with Vemurafenib, maintaining stability over two years with ongoing rheumatological and neurological follow-up.

Histopathological analysis of ECD shows an infiltrate of non-Langerhans histiocytes, CD68 positive, and negative for S-100 and CD1a, with no Birbeck granules on electron microscopy. Common symptoms include bone pain, systemic symptoms, and organ fibrosis, as seen in this patient. Central nervous system involvement in ECD, occurring in 37-51% of patients, is associated with poor prognosis and includes diverse neurological manifestations such as ataxia and cognitive impairments without MRI brain changes [1-4].

This case underscores the complexity of diagnosing and managing ECD with neurological involvement, emphasizing the necessity of a multidisciplinary approach for accurate diagnosis and effective treatment. Enhanced awareness and systematic examinations are crucial for improving patient outcomes.

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From Somatization and Mood Disorders to Paranoid Schizophrenia: Diagnostic Evolution and Therapeutic Challenges in a Case of Adolescent Psychiatry

Authors: Ștefania-Maria Mocrei-Rebrean

Co-authors: Vlad Răzniceanu, Sînziana-Petruța Mihai, Bianca-Alexandra Savin, Ioana-Alexandra Burghelea, Bogdana Miclea

Domain: Psychiatry

Abstract:

Introduction: D.P., a 14 year old female patient, presented in February 2022 with stress somatization, emotional instability, self-mutilation, suicidal ideation, absenteeism and social anxiety in relation to school bullying.

Case history: Patient history includes chronic gastritis, dysmenorrhea and isolated panic attacks. She has an atypical living arrangement, being raised by her grandmother, and a family history of subclinical psychiatric symptoms.

Investigations: The Child Depression Inventory and the Youth Self-Report Questionnaire scores indicated the presence of clinical depression without immediate suicidal risk.

Treatment: She was initially diagnosed with anxiety disorder and mild depressive disorder and was prescribed sertraline. In September 2022, she commenced 9th grade in a religious highschool displaying delayed sleep phase disorder (DSPD), gender dysphoria and intensified somatoform symptoms. Considering the new diagnoses of anxious-depressive and somatization disorder, aripiprazole, low dose quetiapine and an intermittent anxiolytic were prescribed. In October 2023, after transferring to a vocational highschool, a urinary tract infection precipitated the onset of spiritual delirium featuring delusions of grandeur. Subsequently, DSPD and academic performance improved with delirium stabilization. In March 2024, she was diagnosed with paranoid schizophrenia and prescribed oral paliperidone. Compliance remains low due to somatic complaints.

Discussions: This case highlights the challenges of managing schizophrenia and somatoform disorder in teenagers, who are more susceptible to antipsychotic side effects and who display rapidly evolving symptomatology. Here, diagnosis shifted from mild depressive disorder to psychotic disorder to paranoid schizophrenia with somatization disorder. Management is complicated by somatic symptoms and by environmental factors precluding psychosocial interventions. Given that childhood-onset schizophrenia has worse outcomes than adult forms, with medication adherence being the key predictor of relapse, it is essential for clinicians to ensure compliance.

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SILENT TRAGEDY – COPING WITH THE EFFECTS OF ACOUSTIC NEUROMA (A CASE REPORT)

Authors: Ioana-Alexandra Burghelea

Co-authors: Bianca-Alexandra Savin, Andrei Calancea, Radu Sabău, Anna Szentgyörgyi, Petronela Cerasela Lujinschi MD

Domain: Otorhinolaryngology (ear, nose, and throat)

Abstract:

Introduction: This case report describes the intricate medical consequences suffered by M.M., a 26-year-old female patient who was diagnosed with acoustic neuroma. A physical exam was initially conducted and revealed vertigo, slowly progressive unilateral hearing impairment, dysphagia, cephalalgia and injury of the mentum.

Case history: The patient presented to the Emergency Reception Unit with a chin lesion after a ground-level fall due to vertigo. The patient showed signs of traumatic brain injury (poor coordination, confusion) and a head CT scan was requested.

Investigations: The scan revealed the presence of an acoustic neuroma situated in the cerebellopontine angle, which also compressed the brainstem, the fourth ventricle and thus caused obstructive hydrocephalus. Moreover, the scan depicted the erosion and widening of the internal acoustic canal and outlined the tumour as a solid oval-shaped mass, which measured 36x33 mm, and was later surgically removed.

Treatment/Results: Surgical treatment ensued, therefore the tumour was resected through left suboccipital craniotomy. The obstructive hydrocephalus was handled using a ventriculoperitoneal shunt and it ultimately remitted.

Discussions: Acoustic neuroma, otherwise known as vestibular schwannoma, is a benign tumour originating from the Schwann cells of the vestibular nerve. This case provides an opportunity to explore the multifaceted complications of acoustic neuroma. After the surgery, because of the total removal of VIII nerve, the patient suffers from anacusis. Moreover, due to the lasting brainstem compression, the patient is afflicted with VII nerve palsy, which caused lagophthalmos, and it led to exposure keratopathy. It gave rise to a left corneal ulcer, which was treated with Dexpanthenol. Furthermore, the patient experiences paresis of IX and X nerves, which worsened dysphagia and dyspnoea. As a result, the patient feeds through a gastrostomy tube and breathes through a tracheostoma. Recognizing these potential outcomes can assist clinicians in optimizing therapeutic approaches, and enhancing patient results.

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An Unusual Cause of Foot Drop in a Young Boy

Authors: Ria Elsa George

Co-authors: Dr. Krishnan Balagopal

Domain: Neurology

Abstract:

Introduction: Intraneural hemangiomas of the peripheral nerves are rare tumors which are often undiagnosed. They commonly involve the Median nerve in the upper limb and the Tibial nerves in the lower limbs. We present the case of a thirteen year child who presented with a left sided foot drop and was found to have an intraneural hemangioma of the peroneal nerve.

Case history: A thirteen year old boy presented with a one month history of progressive weakness in the distal left lower limb. There was no family history of similar events or history of trauma. Clinical examination revealed weakness involving the dorsiflexors and evertors of left foot with foot drop. There was evidence of decreased sensations along the superficial peroneal nerve distribution. A clinical diagnosis of a left common peroneal neuropathy was made and he was investigated for the same.

Investigations: Blood investigations including vasculitic markers were negative. Nerve Conduction Study done showed evidence of axonal neuropathy of the left peroneal nerve with decreased motor amplitudes on stimulation at the ankle and knee. He underwent an MR Neurography with contrast of the left peroneal nerve which showed an enhancing lesion of size 5x6x7 mm ,compressing the left common peroneal nerve proximal to the knee joint. There was evidence of denervation changes in the muscles of the anterior and lateral compartment of the leg.

Differentials and management: Intraneural hemangioma were considered as the most likely diagnosis due to hyperintensity on T2 MRI sequences and enhancement on contrast. The other possibility considered was an intraneural schwannoma .Due to imaging evidence of neural compression and muscle atrophy with foot drop , surgical management was considered the best option. Plastic surgery opinion was taken and microsurgical resection and graft repair of the nerve lesion was done on an elective basis. Histopathology was confirmatory of the diagnosis.

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The use of rituximab in the treatment of hemolytic crisis in the course of severe antiphospholipid syndrome - a case report

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Co-authors: Karol Bigosiński, Aleksandra Dembowska, Dorota Suszek

Domain: Rheumatology

Abstract:

Background. Antiphospholipid syndrome (APS) is an acquired autoimmune disease characterized by thrombotic complications and/or obstetric failures in patients with antiphospholipid antibodies. First-line treatment in APS is aspirin, low-molecular-weight heparin or warfarin. Anticoagulant strategies are usually ineffective for the non-thrombotic manifestations of APS - thrombocytopenia or autoimmune hemolytic anemia. Increasingly, data support a role for B lymphocytes in the pathogenesis of APS. The use of therapy directed against them may have a beneficial therapeutic effect related to the elimination of autoreactive B lymphocytes and influence on the synthesis of autoantibodies.
Case report. We present a description of the course of APS in a 45-year-old man. The first symptoms of the disease occurred at the age of 35: deep vein thrombosis of the right lower limb, pulmonary and central retinal artery embolism, high titers of antiphospholipid antibodies. Treatment with warfarin, hydroxychloroquine was started. A year later, the patient was admitted to the rheumatology department for severe autoimmune hemolytic anemia. For this reason, he received glucocorticoids, intravenous infusions of immunoglobulins with short-term improvement. In the following years of observation, he developed thrombosis of the brachiocephalic trunk, left subclavian vein, and splenic infarction. Despite the use of cyclophosphamide, azathioprine, cyclosporine, methotrexate and mycophenolate mofetil, severe episodes of autoimmune hemolytic anemia (Hgb 1.9 - 7 g/dl) occurred repeatedly. In February 2024, 4 infusions of rituximab were administered at a dose of 375 mg/m2 at 1-week intervals. To date, no recurrence of anemia (currently Hgb - 12.8 g/dl) and thromboembolic complications have been observed.
Conclusions. B-lymphocyte depletion following rituximab has been shown to be effective in the treatment of severe hemolytic crisis. To date, there are no clinical trial data supporting the benefit of this treatment and the available results are based on observational studies supporting the efficacy of this treatment.

Gut Blockage: Chronic Pancreatitis and Duodenal Stenosis Revealed

Authors: Anna Szentgyörgyi

Co-authors: Bianca-Alexandra Savin, Ioana-Alexandra Burghelea

Domain: Gastro-enterology

Abstract:

Introduction: An 83-year-old, female patient, presented with weight loss, abdominal discomfort, loss of appetite and early satiety. She had arterial hypertension and type 2 diabetes-mellitus (T2DM). The physical examination revealed asymmetrical abdominal distension in the epigastric and umbilical region.

Case history: The patient has a history of obstructive jaundice caused by choledocholithiasis. 50 days later she had acute pancreatitis, and two weeks later, she was presented with subocclusive intestinal syndrome.

Investigations: The abdominal ultrasound revealed a gastroduodenal expansion (D1 and D2 segments), thickened walls in D3 and D4, enlarged choledochoduodenostomosis with massive reflux, and pneumobilia, these aspects were suggestive of gastroparesis and inferior duodenal stenosis on D2-D3 segments. The CT scan with contrast material revealed an enlarged pancreatic head with duodenal compression and thickened stenosing duodenal walls. The upper endoscopy revealed medium and distal esophagitis, duodenitis, and negative biopsies. The imaging findings were suggestive of gastroparesis, benign duodenal stenosis, and chronic pancreatitis. The biochemical results indicated normocytic normochromic anemia, hypoproteinemia with hypoalbuminemia (2,5 g/dL), inflammatory syndrome and a high D-dimer level (1950 ng/dL). The patient underwent exploratory surgery, the final diagnoses were hypertrophic chronic pancreatitis with duodenal stenosis, compensated gastric evacuation insufficiency, and protein-caloric malnutrition.

Treatment/Results: The patient underwent a gastric suction, she was treated with Ringer solution, gastric protectors, and for protein-caloric malnutrition, with human albumin, B1, B6 vitamins, and alpha-lipoic acid.

Discussions/Differentia diagnosis: Patients having a history of acute pancreatitis have a higher risk of developing gastric neuromuscular dysfunction, as a differential diagnosis of gastroparesis. Malnutrition and gastroparesis are complications of type 2 diabetes, but in this case, the diabetic background was excluded, because of the fast evolution of the disease. The duodenal obstruction due to chronic pancreatitis (CPPT) is an infrequent condition, approximately 1% with CPPT suffer from this.

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Delayed diagnosis of bilateral congenital hip dysplasia

Authors: Ionuț Bosâncean, Silvia Ioana Nemes MD, Prof. Dan Cosma MD PhD

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Domain: Orthopedic surgery

Abstract:

Congenital hip dysplasia refers to an atypical development of the hip joint resulting in an aberrant relation between the femur and the acetabulum. A 4-year-old male patient, N.E., presents to our institution accusing static and walking abnormalities and movement limitations in the hip articulation. Regarding the physical examination, the patient presented waddling gait and noticeable deformation of the hip when changing the supporting leg.

The patient was born following a birth without complications and seemed healthy from all perspectives. When the patient started walking the parents noticed the unusual gait and presented to multiple clinicians who discharged them home instead of referring them to a specialist. By the time of the first presentation to pediatric orthopedy, the patient was already too old for noninvasive correction with a spica cast or a Pavlik harness.

Upon arrival, the patient underwent an antero-posterior pelvic radiography which revealed a complete, symmetrical dislocation of the femurs. Instead of being situated in the acetabulum, the femoral head were located much higher, near the iliac wing.

Based on the patient's age, the elective treatment was open reduction of the dislocation, Salter osteotomy with a graft from the iliac crest to provide more stability to the articulation and femoral osteotomy with derotation to correct additional abnormalities. It was anchored with plates and screws and the patient was immobilized in a spica cast. During the initial admission, the procedure was performed on the left hip, the operation on the right being conducted the following year.

This case, while presenting no complications and a satisfactory recovery, displays how an early diagnosis can make a significant difference compared to a late one. Such events call for more caution from all physicians regardless of specialty, as such errors can be easily prevented and patients could avoid unnecessary risks.

Telemedicine - behind the scenes of recovery in the context of heart failure - a case report

Authors: Bianca-Alexandra Savin

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Domain: Cardiology

Abstract:

Introduction: A 72-year-old male patient, T.E., presented to our clinic with a marked decrease in exercise tolerance and dyspnea during low-intensity activities.

Case History: The patient's symptoms developed insidiously after suffering an ST-segment elevation myocardial infarction in the inferior territory, revascularized percutaneously with the implantation of two drug-eluting stents in the right coronary artery and circumflex artery, 10 hours after onset.
Investigations
NT-proBNP was 1890 pg/dl. Echocardiography revealed mildly impaired systolic function, kinetic disturbances in the inferior wall and inferior interventricular septum. The exercise test was stopped at 100W after 10 minutes and 27 seconds, with a maximum heart rate of 119 beats per minute, metabolic equivalents (METs) of 4.7, and marked dyspnea.

Treatment/Results: The diagnosis was ischemic cardiomyopathy due to bivascular disease and heart failure NYHA II/III. The patient underwent an 8-day rehabilitation program in our clinic. Forxiga and Diurex were included in the treatment plan. After discharge, he engaged in moderate activity five times a week under the supervision of a specialized trainer, and reported symptom progression weekly by phone. The heart rate and blood pressure were monitored. The exercise test at 3 months was stopped at 150W, METs increased by 20%, and dyspnea was mild.

Discussions: Cardiovascular rehabilitation sessions through telecommunication include three essential components, each with particular benefits: medical education of patients, supervised physical exercise, and lifestyle counseling.
A Cochrane systematic review from 2017 identified 39 relevant trials focused on home telemonitoring (HTM), which mainly assessed symptoms, weight, heart rate and rhythm, and blood pressure. The review found that HTM was linked to a 20% decrease in all-cause mortality and a 37% reduction in heart failure hospitalizations.
Telemedicine should be used more frequently in clinical practice to improve treatment compliance and reduce cardiovascular mortality.

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Silent Saboteur: Actinomyces Israeli in Splenic Abscesses

Authors: Anna Szentgyörgyi

Co-authors: Bianca-Alexandra Savin, Ioana-Alexandra Burghelea

Domain: Abdominal Surgery

Abstract:

Introduction: A 45-year-old, male patient presented with fever, chills, sweating and right hypochondriac and epigastric pain. The clinical examination revealed pale skin tone, tachycardia, tachypnea, fever and painful abdominal palpation.

Case history: Insidious debut 3 weeks ago, firstly episodic, then in the last 2 weeks persistent superior abdominal pain, fever, and chills. He lost 4 kilograms in the past month.

Investigations: The laboratory results indicated a systemic inflammatory response syndrome (SIRS) (leucocytosis, elevated ESR, CRP), iron-deficit anaemia, and altered liver function tests (GGT, ALP). The ultrasound images were suggestive of left portal vein thrombosis (PVT) and splenic abscesses (SA). The CT scan revealed multiple hypodense, areas with liquid density, as possible hepatic and splenic abscesses.

Treatment, results: The treatment with Cefotaxime and Gentamycin lead to negative haemocultures after 72 hours. Despite the broad-spectrum-antibiotic treatment, he developed septic fever, chills, tachycardia, and intense left hypochondriac pain.

The patient underwent splenectomy, and its pathological examination revealed splenomegaly and splenic abscesses, the microscopic evaluation indicated a suppurative inflammatory reaction in the presence of Actinomyces Israeli granules with polymorphonuclears and lymphocytes.

The surgery was followed by broad-spectrum antibiotic treatment (Penicillin, Fluconazole and Esomeprazole). The postoperative evolution was favourable. An ultrasound 60 days postoperatively revealed left PVT, at the VII-VIII segments.

Discussions: Splenic lesions due to A. Israeli are uncommon diseases. There are two effective treatment options for SA: percutaneous drainage (PD) of the abscesses and splenectomy. However, PD is associated with lower morbidity and mortality, in this case, the multilocular abscesses required splenectomy and long-term antibiotic treatment.

The negative haemocultures and the clinical/biochemical amelioration under the Penicillin treatment indicated an infection exclusively with A. Israeli, while the SIRS, left PVT and the initial hepato-splenic aspect was suggestive of the combination of the A. Israeli with pyogenic germs.

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Restoration of a chronically treated tooth 46 using a 3D-printed ceramic onlay: a case report

Authors: Martyna Wróblewska, Aleksandra Zdzymira, Przemysław Kustra MD PhD

Domain: Dentistry

Abstract:

Introduction: A 41-year-old female patient, AP, presented with a history of chronic dental issues related to tooth 46, diagnosed with atypical Class II MOD caries. Despite multiple conservative treatments, the results proved unsatisfactory. Examination revealed functional disorders and increased muscle tension, which were likely contributing to the dental problems.

Case History: The treatment process began with a root canal treatment of tooth 46 in 2009. Since then, the tooth underwent several composite reconstructions in 2016 and 2020. Functional overload of the tooth was diagnosed using a T-Scan, potentially causing microcracks in both the tooth structure and the composite restoration, thereby increasing susceptibility to caries. In 2024, a decision was made to use a prosthetic onlay restoration made with 3D printing technology. This reconstruction was completed in a single visit with new printing technology from Bego, using ceramic material. The restoration was designed with RayWare software and executed with the 3D SprintRay Pro 55S printer from 3D Phoenix Dental Sp. z o.o.

Investigations: Chronic occlusal overload, increased muscle tension, and microcracks in tooth 46 leading to heightened susceptibility to atypical caries – developing after root canal treatment.
Treatment/Results
The patient accepted the new form of restoration and was satisfied with the result. Six months post-reconstruction, the adaptation of the new tooth structure was deemed satisfactory.

Discussions: 3D printing is a continuously evolving technique for dental restorations, employing various materials, including composite resins and ceramics. It enables exceptionally durable restorations meeting previously unattainable requirements. Ongoing digitization of dental protocols allows for patient treatment within single dental practice in a highly favorable short time frame, even during one visit. Advancements in materials and printing technologies have the potential to improve the efficacy and reliability of these reconstructive techniques.

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A RARE DISEASE WITH DERMATOLOGICAL IMPLICATIONS – AUTOIMMUNE OR VIRAL?

Authors: Teodora-Gabriela Cîrjan, Assistant Professor MD Teodora Larisa Florian

Co-authors: Luca-Mathew Epuraș, Alexia Maria Chichișan, Daria Briana Ciuta

Domain: Dermatology

Abstract:

Introduction – Case History: A 50-year-old male patient without any relevant pathological history presented to the Emergency Room with generalized erythematous eruption with erosions and crusts, resting dyspnea, epigastric pain, and low-grade fever. The patient did confirm poor bodily hygiene. For these reasons, the patient is admitted to the internal medicine department.

Investigations: The suspicion of thrombocytopenic purpura is raised, and several investigations are carried out. The chest X-ray shows accentuated central and infrahilar pulmonary pattern, while the abdominal ultrasound reveals hepatomegaly with the appearance of hepatic steatosis. Moderate hepatocitolysis and cholestasis are discovered, along with hypoferremia, lymphopenia, and thrombocytopenia.

Consultations are suggestive of a moderate form of ARDS (acute respiratory distress syndrome). During hospitalization, oxygen therapy, antibiotics and corticosteroids showed no signs of improvement in skin lesions, so the patient is transferred to the Dermatology Clinic. Biopsy examination showed that vascular structures had thickened walls with leukocyte infiltrates, which further supports the diagnosis of thrombocytopenic purpura. However, our patient's physical examination revealed palpable 2cm lymph nodes and immunological investigations disclosed something crucial to our case - IgE levels were elevated (516 IU/ml) and after performing ELISA tests, he turned out to be positive for HSV1 and HSV2. Therefore, he was diagnosed with eczema herpeticum.

Treatment: We prescribed antiviral medication - Virolex (5 days) and Acyclovir (2 days), as well as intravenous corticoids every 8h and antibiotherapy (Ciprocin - 5 days). After only 1 week of treatment, the patient showed impressive improvements and the skin lesions mostly disappeared.

Discussions: HSV usually infects the damaged epidermis, in areas with atopic dermatitis, resulting in eczema herpeticum, which is rare and potentially fatal. Our case's particularity stands in the fact that it appeared in an immunocompetent patient without atopic dermatitis or other dermatoses. Despite that, it manifested extensively, through disseminated lesions across the entire body surface.

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Thoracic Endometriosis Complicating Pregnancy: A Case Report

Authors: Hanna Rodak

Co-authors: Magdalena Kołak, Andrzej Jaworowski, Hubert Huras

Domain: Gynaecology

Abstract:

Introduction Endometriosis, a chronic, estrogen-dependent inflammatory condition, is characterized by the presence of endometrial-like tissue outside the uterus. Predominantly affecting 5-10% of women of reproductive age, its symptoms, primarily pelvic pain and infertility, can significantly diminish quality of life. A particularly rare manifestation is thoracic endometriosis syndrome, characterized by the presence of ectopic endometrial tissue in the thoracic cavity. A 32-year-old pregnant woman (16 weeks of gestation, gravida 2, para 1) presented at the Emergency Unit of University Hospital in Cracow with suspected right-sided spontaneous pneumothorax. Case history Her medical history included multiple instances of spontaneous pneumothorax and a diagnosis of pelvic and diaphragmatic endometriosis. She had previously undergone videothoracoscopy, right lung wedge resection, partial diaphragmatic resection with reconstruction, pleurectomy, and was on dydrogesterone therapy. Investigations Chest X-ray revealed a small pneumothorax (~12 mm), managed conservatively without drainage following thoracic surgical consultation. Treatment/Results The patient was admitted to the Obstetrics Department for observation, where she remained stable over seven days, ultimately being discharged with resolved thoracic symptoms. At 39 weeks of gestation, the patient was readmitted for scheduled caesarean section due to thoracic indications. A healthy male infant was delivered. Discussion Thoracic ectopy is the most common site of endometriosis outside of the abdominopelvic cavity, but managing this condition in pregnant patients is challenging due to the limited understanding and literature regarding endometriosis outside the reproductive system. The rarity of this condition contributes to delayed diagnoses and frequent misdiagnoses. This case study highlights the clinical rarity and complexity of thoracic endometriosis, particularly during pregnancy, which is conventionally believed to ameliorate endometriosis symptoms.

Oral presentations

DIABETES AS A SYMPTOM OF A DISEASE?

Authors: Kamil Tkacz

Co-authors: Anna Nowak-Szwed, Leszek Czupryniak

Domain: Oncology

Abstract:

Introduction:Newly diagnosed diabetes mellitus may not always be the primary condition of the patient. It may be secondary to other conditions requiring extended diagnosis. This case shows the importance of an extended oncological diagnostic process.

Case Presentation: A 66-year-old patient was admitted to the Diabetology Department for scheduled metabolic management due to uncompensated, newly diagnosed diabetes. Home measurements revealed glycemia levels between 400-500mg/dl. He reported numbness in his feet and a weight loss of 18kg in the last 6 months. Physical examination did not reveal any abnormalities. Upon admission patient's HbA1c was 16,5%. The patient was treated with insulin to compensate for glycemia and i.v. alpha-lipoic acid to manage neuropathy symptoms. Moreover, abdominal ultrasound showed the enlarged pancreas with heterogeneous structure and hypoechogenic infiltration in the left kidney. Pancreatic cancer was suspected, therefore abdominal CT was performed. It revealed renal cell carcinoma with metastases to the pancreas which was confirmed in MR. The patient underwent a radical pancreatectomy with duodenectomy, splenectomy, cholecystectomy and nephrectomy of the left kidney. Histopathological examination confirmed the diagnosis of clear cell renal carcinoma G3, pT3a, N0, M1. The patient was treated with nivolumab and ipilimumab. A diagnosis of a pancreatogenic diabetes was established, which was treated with intensive insulin therapy using the multiple injection method, and continuous glucose monitoring was employed for glycemic monitoring. After the Osurgery, the patient's time in range (TIR) reached 88% and after 5 months of surgery, TIR reached 74%.

Conclusions: Newly diagnosed diabetes may be the first sign of cancer. In patients with diabetes, especially those with additional cancer risk factors or other warning symptoms, oncological vigilance should be maintained. Various cancers, such as melanoma, breast cancer, lung cancer, or colorectal cancer, can metastasize to the pancreas. Therefore, if cancer is suspected as the cause of diabetes, extensive oncological diagnostics should be conducted.

PERIODONTITIS AND ORAL HYGIENE IN PATIENTS WITH DIABETES MELLITUS TYPE 2

Authors: Kaja Kłopecka, Kamil Tkacz

Co-authors: Anna Nowak-Szwed, Tomasz Głażewski, Karolina Facca, Leszek Czupryniak

Domain: Dentistry

Abstract:

Introduction: Type 2 diabetes mellitus (T2DM) and periodontitis are chronic conditions which often co-occur. T2DM increases the risk of periodontitis due to impaired immune response and elevated blood glucose levels. Conversely, periodontitis, as an inflammatory disease, may affect insulin sensitivity and worsen blood glucose control. Our study aims to investigate the relationship between metabolic control of diabetes, the occurrence of periodontal disease and adherence to dental recommendations in patients with diabetes.

Materials and methods: The cross-sectional study was conducted on patients with T2DM at the Medical University of Warsaw. We collected the baseline characteristics, including medical history, physical examination, and laboratory tests. We performed a complete periodontal examination to assess oral health and conducted a survey on oral hygiene.

Results: In our ongoing study, we have included 12 patients. The mean HbA1c level was 8.39% (SD: 1.05, 95% CI: 7.15-9.63). In the periodontal study: the median maximal clinical attachment loss (CAL) was 7 (IQR: 6-9,5), the mean maximal pocket depth was 4,77 (SD: 1,92, 95% CI: 3,608-5,93), the mean percentage of bleeding on probing (BOP) was 10,83 (SD 1,43, 95% CI: 4,21-17,46). The mean plaque percentage was 36.92% (SD: 25.18, 95% CI: 20.92-52.92). Based on the questionnaire, 40,74% reported brushing their teeth less than twice a day and 74.07% of the participants were in the category of flossing less than once a day.

Conclusions: Our study highlights the significance of metabolic control of diabetes and periodontal health in patients with T2DM. The findings suggest that many patients exhibit poor periodontal health, as evidenced by elevated CAL and BOP. Adherence to recommended oral hygiene practices was suboptimal, resulting in elevated plaque percentages. These results underscore the importance of integrated dental care and education in managing patients with diabetes to improve both metabolic and periodontal outcomes.

Funding: 1WO/1/M/MG/N/23 Student Mini-Grant, Medical University of Warsaw

HIGH EXPRESSION OF SLC38A3 AMINOACID TRANSPORTER IS RELATED TO POOR PROGNOSIS IN ENDOMETRIAL CANCER.

Authors: Marta Szczygieł, Piotr Tyburski, Jędrzej Sikora, Magdalena Nadolna, Cezary Miedziarek, Mikołaj Zaborowski MD, PhD

Domain: Oncology

Abstract:

Introduction: The incidence and mortality of endometrial cancer (EC) increases. The Cancer Genome Atlas (TCGA) classified EC into four molecular subtypes: POLE ultramutated (POLEmut), microsatellite instability hypermutated (mismatch repair deficient, MMRd), copy-number low (no specific molecular profile, NSMP), and copy-number high (p53 abnormal, p53abn) subtype. TCGA molecular classification was incorporated into a new FIGO staging system. Abnormal cellular metabolism is one of the cancer hallmarks. Tumor cells utilize amino acids as important structural and energetic substrates. The SLC38A3 gene encodes an amino acid transporter that exchanges glutamine, asparagine, and histidine. The study aimed to define the association between the expression of SLC38A3 and clinical EC features.

Materials and methods: The expression of eighteen amino acid transporters was assessed based on transcriptomic, proteomic, and clinical data of 373 EC tumors retrieved from TCGA. Cox proportional hazards regression univariate models (n=373) were built to predict overall survival (OS) and disease-free survival (DFS). Kruskal-Wallis test, followed by pairwise Dunn's tests, was used for multiple group comparisons.

Results: Upregulation of SLC38A3 preditced poor OS (HR=1,58; p=3,14·10-3) and DFS (HR=1,46; p=3,67·10-3). SLC38A3 levels were significantly higher in FIGO stage II as compared to stage I (p = 5,66·10 -3) and grade 3 compared to grades 1 and 2 (p = 4,01·10-3; p = 5,36·10-3, respectively). SLC38A3 expression was higher in p53abn tumors as compared to each molecular subtype (p = 1,18·10-5 vs. NSMP; p = 1,03·10-5 vs. MMRd, p = 2,16·10-6 vs. POLEmut). In addition, SLC38A3 expression was significantly higher in the microsatellite stable (MSS) group than in MMRd (p = 0,01).

Conclusion: Expression of SLC38AC is associated with poor prognosis and p53abn subtype. SLC38AC may constitute a potential target for anti-tumor drugs in this subtype.

VBAC. Women's knowledge about different possibilities of giving birth after a ceaserean section

Authors: Weronika Curyło

Co-authors: Ewelina Knapczyk, Katarzyna Milewska-Plis

Domain: Gynaecology

Abstract:

Introduction: VBAC which stands for vaginal birth after caesarean, poses a challenge to modern obstetrics, both for staff and for women giving birth. The aim: Investigation of the level of knowledge of women in their reproductive age about VBAC. Frequency of caesarean section and VBAC among respondents.

Materials and methods: The study was conducted as an online survey questionnaire. A total of 816 women aged 18-49 participated. The questionnaire consisted of 38 original questions based on the recommendations of the Royal College of Obstetricians and Gynaecologists (31 single-choice closed questions, 3 multiple-choice closed questions, and 4 open-ended questions). The results were subjected to statistical analysis using the IBM SPSS Statistics program.

Results: In terms of age, the largest representation was among women aged 25-34 years (51%). The study shows that there is a connection between age and knowledge about VBAC. Women aged 25-44 have the best results regarding knowledge about VBAC. The majority of respondents were women with tertiary education (67%). The study showed that there is no association between education and knowledge about VBAC. 18% of respondents had attempted TOLAC (trial of labour after caesarean), of which 11% were successful (VBAC).

Conclusions: Women of childbearing age show a sufficient level of knowledge about VBAC and alternative ways to conclude subsequent pregnancies. In view of the persistently high caesarean section rate, it is reasonable to promote and popularize the possibility of a natural childbirth after a previous caesarean section among women with further maternal plans. Women should be educated about the benefits of VBAC, both for themselves and their baby. Among women who are just planning to have offspring, it should be pointed out that a vaginal childbirth has many advantages and is often possible despite previous caesarean sections.

ADDRESSING BREAST CANCER IN HIGH-RISK ROMANIAN WOMEN: STRATEGIES AND OUTCOMES

Authors: Lorin-Manuel Pîrlog

Co-authors: Adela-Diana Pitforodeschi, Andreea Cătană

Domain: Oncology

Abstract:

Introduction: The aim of this study is to evaluate the effectiveness of breast cancer screening and prophylactic intervations for high-risk women in Romania. The study investigates the incidence, risk factors, and preventive measures associated with breast cancer, focusing on the challenges and solutions specific to the Romanian healthcare system.

Materials and Methods: This review utilizes epidemiological data from GLOBOCAN (2018 and 2020) and examines various screening methods including mammography, ultrasound, and MRI. The study also explores genetic risk factors, particularly BRCA1 and BRCA2 mutations, and their association with breast cancer. Prophylactic measures such as chemoprevention, oophorectomy, and prophylactic mastectomy are analyzed. Statistical data regarding the incidence, mortality rates, and effectiveness of these interventions are presented to support the findings.

Results: The incidence of breast cancer in Romania is rising, with 26.9% of cancer diagnoses in women being breast cancer and a mortality rate of 7.2% in 2020. Screening methods are underutilized, with only 21% of at-risk women undergoing mammography. Genetic testing is not widely accessible, affecting early detection and preventive strategies. Chemoprevention with Tamoxifen and Raloxifene shows significant risk reduction, with a 49% decrease in invasive breast cancer risk. Oophorectomy reduces hormone receptor-positive breast cancer risk, and prophylactic mastectomy significantly lowers the overall cancer risk, with high patient satisfaction rates post-surgery.

Conclusion: The study concludes that improving breast cancer outcomes in high-risk women in Romania requires enhanced healthcare infrastructure, better access to genetic testing, and increased public awareness about screening and preventive measures. The significant rise in breast cancer incidence underscores the need for effective screening programs and prophylactic interventions. Addressing these challenges can lead to earlier detection, more effective prevention, and improved patient outcomes.

INCIDENCE, RISKS, AND EARLY DIAGNOSIS IN COWDEN SYNDROME

Authors: Lorin-Manuel Pîrlog

Co-authors: Adela-Diana Pitforodeschi, Andreea Cătană

Domain: Clinical Genetics

Abstract:

Introduction: This review aims to provide a comprehensive overview of Cowden Syndrome (CS) by highlighting the significant clinical manifestations and associated risks. Emphasis is placed on the disparities in incidence rates across various studies, underscoring the need for early diagnosis and continuous multidisciplinary support to improve patient outcomes and extend lifespan.

Materials and Methods: This review synthesizes data from reviews and case reports, focusing on the genetic basis and clinical spectrum of CS. The methodology included a detailed extraction and analysis of data related to the PTEN gene mutations and their phenotypic presentations. Statistical analysis involved comparing prevalence and onset ages of associated conditions to identify inconsistencies and assess data reliability across multiple studies concentrating 76 references in the end.

Results: CS, associated with PTEN Hamartoma Tumour Syndrome, presents a range of clinical manifestations, including a heightened risk of breast cancer (38-52 years onset) compared to the general population (63 years). The prevalence of colorectal cancer in CS patients ranges from 9% to 17%, significantly higher than the general population's 5%. CS patients also show a 34-35% lifetime risk of renal cell carcinoma, compared to 1.6% in the general population. Additionally, approximately 90-95% of CS patients exhibit colorectal polyps, and the median age for thyroid cancer diagnosis is significantly younger (31-37 years) compared to the general population (53 years).

Conclusion: This review highlights the critical need for early diagnosis and ongoing surveillance in managing CS, given its diverse clinical manifestations and elevated cancer risks. Standardizing diagnostic criteria and improving data consistency across studies are essential for accurate risk assessments and effective intervention strategies. Enhanced patient care, through targeted surveillance and multidisciplinary support, can significantly improve life expectancy and quality of life for CS patients.

THE ONGOING WAR AGAINST ANTIBIOTIC RESISTANCE. CAN GENETIC ENGINEERING HELP US OVERCOME THIS OBSTACLE?

Authors: George Berar, Dan-Alexandru Țoc

Co-authors: Bogdan-Valentin Roznovan, Diana-Mara Bește

Domain: Infectious diseases

Abstract:

Antibiotic resistance has become a real threat in recent years and infectious diseases are now harder than ever to treat. So, what if antibiotics prove to be useless in the long run? This is where CRISPR Cas 9 system (clustered regularly interspaced short palindromic repeats) can help us unmake the damage done by the widespread use of antibiotics. The way this system works is by making a cut in the dsDNA that will render the new genetic material unusable. By manipulating the genetic material found in bacteria, we can remove certain genes responsible for drug resistance, facilitate the use of other treatment options such as bacteriophages or downregulating virulence and pathogenic factors (biofilm formation) lowering the rates of infection and the risks of complications in return.

Embase and PubMed Central were consulted, using a combination of the following keywords: “antibiotic resistance”, “CRISPR Cas”, “plasmid transfer”, “enterococcus spp.”. Out of 1646 articles, 284 were duplicates, 377 were excluded due to lack of relevance, 253 were excluded for lack of coherence, 561 were excluded due to no outcome of interest leaving us with 171.

Studies showed that bacteria that possess a CRISPR Cas system are less prone to acquiring new plasmids or lysogenic phages. Removing this sequence will lead to massive plasmid accumulation, which can in turn make the bacteria vulnerable to pheromones produced by local Enterococcus. Bacteria that have a wider spectrum of antibiotic resistance, such as vancomycin resistant enterococcus (VRE), have an innate absence of the CRISPR locus, thus making them susceptible to bacteriophage activity.

Though the technology is relatively new, and more research is needed, studies show promising results. Besides the multitude treatment approaches CRISPR has, some of which have been previously mentioned, it is also an impressive option in diagnosis radically diminishing time needed to diagnose aggressive pathogens.

miR-9 and let-7d as predictors of chemotherapy toxicity in patients with newly diagnosed multiple myeloma undergoing treatment based on thalidomide or bortezomib

Authors: Maciej Dubaj

Co-authors: Anna Kokoć, Radosław Mlak, Aneta Szudy-Szczyrek, Marcin Mazurek, Adrian Juda, Karol Bigosiński, Magdalena Tyczyńska, Olga Czabak, Iwona Homa-Mlak, Teresa Małecka-Massalska, Marek Hus

Domain: Oncology

Abstract:

Background. Multiple myeloma (MM) is one of the most common hematological neoplasms and accounts for approximately 1% of human cancers. There is a constant search for ever more precise predictive factors to select appropriate therapy and prevent complications. Both miR-9 and let-7d are known factors promoting cell proliferation and MM progression. The aim of the following study was to investigate the relationship between the expression of these miRNAs and complications of MM therapy.

Material and methods. The study group included 92 patients with newly diagnosed MM (54.3% women, patients aged ≥65 years accounted for 53.3%) undergoing chemotherapy regimens based on thalidomide (CTD: 30.4%), bortezomib (V(C)D: 26.1%), a combination of both drugs (VTD: 31.5%) or other drugs (PAD or VMP: 11.9%). In the study group, we analyzed the predictive value (in terms of both hematologic [anemia, neutropenia, lymphopenia, thrombocytopenia, thromboembolic complications] and non-hematologic [infections, polyneuropathies, diarrhea, constipation] toxicities of chemotherapy) of a number of demographic-clinical and molecular factors including the expression of 2 selected miRNAs (miR-9 and let-7d). The expression of the studied miRNAs was analyzed using Real-Time PCR and commercially available Taqman probes.

Results. High expression of let-7d was observed to be associated with a significantly lower risk of polyneuropathy (67.4% vs 32.6%; OR=0.29, 95%CI: 0.12-0.71). In contrast, high miR-9 expression was associated with a significantly higher risk of thrombocytopenia (67.9% vs 39.7%; OR=3.21, 95%CI: 1.25-8.21) and thromboembolic complications (90% vs 44.3%; OR=11.311, 95%CI: 1.37-93.62).

Conclusions. MicroRNAs let-7d and miR-9 may be useful predictors of chemotherapy toxicity in patients with newly diagnosed MM undergoing treatment based on regimens containing thalidomide or bortezomib.

Volatile organic compounds (VOCs) and mucins as diagnostic and monitoring tools in pediatric inflammatory bowel disease

Authors: Sabrin Abu Allan, Douha Tahri, Finke Totté

Domain: Gastro-enterology

Abstract:

Aim: The aim of this review is to investigate the use of volatile organic compounds (VOCs) and mucins as non-invasive methods in the diagnosis of pediatric IBD.

Methods: A systematic search on PubMed was conducted by three researchers using MeSH terms, resulting in 35 articles.

Results: 10 articles were included after screening based on title, abstract and full text. The mucin studies used different sample sites for the biopsies, mostly the colon but also the duodenum and terminal ileum. The matrices investigated in the VOCs studies were breath, fecal and urinary samples. Specific mucins and VOCs were able to make a significant distinction between IBD patients and healthy controls.

Conclusion: VOCs and mucins are disturbed in pediatric IBD. The analysis of VOCs and mucins seems to be a promising diagnostic tool for distinguishing between IBD patients and healthy patients.

Implications for further research: More research is needed in order to affirm these findings and develop the use of VOCs and mucins as non-invasive diagnostic tools in the diagnosis of pediatric IBD.

CHOCARDIOGRAPHIC MODEL TO DISTINGUISH BETWEEN PATIENTS WITH ACUTE PULMONARY EMBOLISM AND CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Authors: Emilia Lis

Co-authors: Klaudia Zaczyńska, Marcin Waligóra MD, PhD, Jakub Stępniewski MD, PhD, Prof. Grzegorz Kopeć MD, PhD

Domain: Cardiology

Abstract:

Introduction: In patients with acute pulmonary embolism (APE) who are potential candidates for percutaneous treatment, there is often a therapeutic dilemma in distinguishing changes from those resulting from chronic thromboembolic pulmonary hypertension (CTEPH). Currently, there is insufficient evidence to differentiate these two conditions. We aimed to compare echocardiographic patterns between intermediate-high-risk PE and CTEPH patients to assess the utility of echocardiography in distinguishing these conditions.

Materials and Methods: We analyzed basic right heart echocardiographic parameters of 81 patients with APE from 2018 to 2024 and records of 68 patients with CTEPH from 2010 to 2022.

Results: The study included 68 CTEPH patients and 81 APE patients. The mean values in the APE group were TAPSE 15.02 mm (±4.82), RVSP 38.59 mmHg (±12.71), and ACT 61.83 ms (±18.86), and in the CTEPH group: TAPSE 17.96 mm (±4.89), RVSP 72.25 mmHg (±17.27), and ACT 70.87 ms (±14.62) (all $p < 0.001$). Significant variables were included in logistic regression models. Based on its results, we built a prediction model which included right ventricular systolic dysfunction (RVD; TAPSE ≤16mm), ACT shortening (ACT <60ms), and elevated RV systolic pressure (RVSP >60 mmHg). For simplification, we rounded the values and ended up with the equation:

SCORE = (-1 for RVD)+(-1.5 for ACT)+(4 for RVSP)

The optimal cutoff threshold was established at a score level of >0 for suspicion of CTEPH, with sensitivity of 76.5%, specificity of 93.8%, and negative predictive value of 91.2%, AUC 0.92 (95% CI 0.87-0.96), $p < 0.0001$. This model resulted in accurate exclusion of CTEPH diagnosis in 93.8% of patients, leaving 6.2% for further assessment with methods beyond echocardiography before making a clinical decision.

Conclusion: The proposed echocardiographic model is a relatively simple and clinically useful tool that enables accurate exclusion of CTEPH in 93.8% of patients with PE symptoms.

The state of knowledge of doctors and medical students about familial hypercholesterolemia

Authors: Mateusz Pałka, Dawid Buczyński

Co-authors: Renata Rajtar-Salwa PhD, Beata Bobrowska PhD

Domain: Cardiology

Abstract:

Introduction: Familial hypercholesterolemia (FH) is a genetic disease that causes increased cholesterol levels in the blood and is associated with many complications that begin at a young age.

Objective: The lack of data in the medical literature that addresses the issue of knowledge and awareness of medical students and physicians, which is key to proper diagnosis and treatment, was the reason for conducting the study.

Method: Authorial survey in paper and online form (12 paper surveys, 61 online), consisting of 6 open-ended questions and 30 multiple-choice closed-ended questions. A total of 73 people were surveyed (34 medical students, 39 physicians).

Results: The analysis showed high awareness of the respondents about the genetic inheritance of the disease (90% of respondents), as well as a rather low level of knowledge about the prevalence (64.4% of respondents), normal test results (9.6% of respondents) and diagnosis of familial hypercholesterolemia (53.4% of respondents).

Conclusions: The study found the highest level of knowledge about FH in medical specialists, average in residents and the lowest in medical students. The results indicate an urgent need to strengthen education about FH in medical studies in order to improve the diagnosis and treatment of this disease.

Keywords: familial hypercholesterolemia, genetic disease, students, doctors, knowledge, survey

Robot-Assisted Surgery Versus Conventional Laparoscopy for Fundoplication in Children: An Updated Meta-analysis

Authors: Maria Klimeczek Chrapusta

Co-authors: Kacper Stolarz, Maciej Preinl, Maria Gruba, Bartosz Bogusz, Wojciech Górecki

Domain: Abdominal surgery

Abstract:

Introduction: The primary aim of this meta-analysis was to compare safety and effectiveness of two surgical methods used for fundoplication in children- conventional laparoscopy (LF) and robot-assisted laparoscopy (RF), which had gained more popularity among pediatric surgeons in the recent years.

Materials and methods: MEDLINE, EMBASE and Web of Science electronic databases were reached for studies comparing LF versus RF from inception to June 2024. Meta-analysis was performed using random effects modeling. Efficacy outcomes of interest were post and intra-operative complications, length of hospital stay (LOS), total operating time (OT), analgesia requirement, and cost.

Results: Initially, 284 articles underwent evaluation. Ultimately, 10 studies met the inclusion criteria and were included, reporting outcomes of 489 children. Pooled analysis determined no statistically significant differences between RF and LF for conversions, OT, LOS, and post and intra-operative complications. Limited evidence suggests higher costs with RF than LF.

Conclusion: Although our study suggests that RF shortens morphine use time, OT and LOS, none of these results were statistically significant. Robotic surgery is an area of significant interest and is quickly growing. However, its use in pediatric surgery remains uncommon due to high costs and a shortage of pediatric-specific instruments. Additionally, few studies compare RF vs LF, and there are no standardized outcomes or follow-up measures.

CORONARY ARTERY ECTASIAS AND ANEURYSMS - CLINICAL AND ANGIOGRAFICAL CHARACTERISTICS OF 200 CONSECUTIVE PATIENTS

Authors: Karol Musial

Co-authors: Kacper M. Książek, Grażyna Wnuk, Jagoda Dradrach, Weronika Stryszak, Jakub Chmiel, Piotr Musiałek

Domain: Cardiology

Abstract:

Introduction: Coronary artery ectasias and aneurysms (CAEA) are associated with an increased risk of myocardial infarction and death. Mechanisms underlying the markedly increased clinical risk are not understood. The aim of this study is to clinically and angiographically characterize patients with CAEA.

Materials and methods: We retrospectively analyzed coronary angiograms of consecutive patients who underwent coronary angiography (CAG) in our Department from January 1st 2009 to January 16th 2016 to identify 200 consecutive patients with an CAEA.

Results: The prevalence of CAEA in 9,388 consecutive patients was 2.13%. Quarter of patients we female and average age was 66.67 (±10) years old. 84.5% had arterial hypertension (HA), 72.5% had coronary artery disease (CAD), 38% had prior ACS, 30.5% had diabetes mellitus (DM), 29% had peripheral artery disease (PAD), 12.5% had atrial fibrillation, 12% prior stroke or transient ischemic attack, and 7.5% had aortic aneurysm. 14% of CAEA patients had coronary artery dilatations in more than one arterial tree. Left anterior descending artery was most commonly affected (43.5%), follow by right coronary artery (35%), circumflex artery (31%) and left main (11%). 35% of CAEA patients were admitted due to acute coronary syndrome (ACS), of which 24.3% (17) had no significant stenosis. 59.5% of CAEA patients underwent coronary intervention, 38% coronary bypass grafting (CABG) and 25.5% percutaneous coronary intervention (PCI). In the group of patients who underwent intervention due to ACS (28.5%), CABG was significantly more common as a management method compared to PCI (78.9% [45] vs. 21.1% [12], $p<0.001$), likely due to anatomical challenges of PCI in CAEA.

Conclusion: CAEA is present in 1 in 50 patients who undergo CAG. CAEA is accompanied by CAD in 3 out of 4 patients, often coexist with HA, DM and PAD, and is associated with high ACS risk.

COULD BIOIMPEDANCE BODY COMPOSITION ANALYSIS BE MORE RELIABLE THAN BODY MASS INDEX (BMI) IN ASSESSING PATIENTS WITH OBESITY AND INSULIN RESISTANCE? A RETROSPECTIVE ANALYSIS

Authors: Katarzyna Witczak

Co-authors: Kamil Górecki, Jakub Gołacki MD

Domain: Clinical biology

Abstract:

Introduction: Insulin resistance (IR) represents a disruption in glucose regulation marked by reduced responsiveness of tissues to insulin. Visceral obesity, a major issue in modern medicine, is regarded as one of the primary contributors to IR. Diagnosis of obesity can be achieved through metrics like body mass index (BMI), waist circumference (WC), or waist-to-hip ratio (WHR). This study seeks to evaluate the effectiveness of traditional obesity indicators against parameters derived from bioimpedance body composition analysis in determining the extent of insulin resistance in patients with overweight and obesity.

Materials and methods: The study included 702 patients with obesity, aged 44.1 ± 13.8 years, including 557 females (79%) and 145 males (21%). A retrospective analysis of data contained in medical records was conducted, with particular emphasis on anthropometric data (age, gender, BMI, waist circumference (WC)), results of body composition analysis using bioimpedance: Percent Body Fat (PBF), Visceral Fat Ratio (VFR) and indirect indicators of insulin resistance: Quantitative Insulin Sensitivity Check Index (QUICKI), Homeostatic Model Assessment of Insulin Resistance (HOMA-IR), and triglyceride to high-density lipoprotein ratio (TG/HDL ratio).

Results: The results showed that VFR and traditional measures like BMI and WC had similar effectiveness in predicting IR, with VFR displaying comparable area under the curve (AUC) values. However, percent body fat (PBF) demonstrated limited predictive utility.

Conclusion: The VFR could serve as a valuable additional biomarker in assessing insulin resistance in patients with obesity.

EFFICACY AND COMPLICATIONS OF PEDIATRIC CRANIOFACIAL RECONSTRUCTION USING FREE MICROVASCULAR FLAPS

Authors: Dominika Lech

Domain: Oral and maxillofacial surgery

Abstract:

INTRODUCTION: The aim of this study is to analyze the efficacy and complications associated with craniofacial reconstruction using free microvascular flaps in pediatric patients. This innovative procedure is critical for addressing congenital defects, traumatic injuries, and malignancies, which can significantly impact the functional and psychosocial well-being of young patients.

MATERIALS AND METHODS: Data were collected from the electronic medical records of patients treated in the Maxillofacial Surgery Department of the Children's Head and Neck Clinic at the Regional Specialist Children's Hospital in Olsztyn, from August 2011 to January 2023. The study included patients up to 25 years of age, with complete medical histories. Parameters analyzed included age, gender, cause, location and type of reconstruction, additional procedures, and complications. Statistical analysis was performed using ANOVA and χ^2 tests. RESULTS: The study included 136 procedures on 126 patients. Tumors (62.70%) and congenital anomalies (30.16%) were the most common reasons for surgery. Mandibular reconstruction was the most frequent procedure (43.65%), with iliac bone being the most commonly used graft material (22.22%). The success rate for free microvascular flap reconstruction was 92.857%, with a complication rate of 15.079%. Inflammatory complications in the donor area and flap necrosis were the most common complications, each occurring in 3.17% of cases. Maxillary reconstructions had a higher incidence of total flap loss compared to mandibular reconstructions (11 vs. 3 cases).

CONCLUSION: Free microvascular flap reconstruction is an effective surgical procedure with a high success rate and low complication rate. Further research is needed to standardize procedures and enhance collaboration with pediatric oncologists to improve outcomes. Emphasis should be placed on the development of surgical techniques and postoperative care protocols to optimize patient outcomes in pediatric craniofacial reconstruction.

Exploring Anatomical Variations In The Left Coronary Artery And Its Branches: A Comprehensive Study On Morphological Characteristics And Bifurcation Angle Measurement

Authors: Viktorija Bankoviča

Co-authors: Scientific research supervisor: Dr. med., Associate Professor Dzintra Kažoka

Domain: Pathological anatomy

Abstract:

Introduction. The left main coronary artery (LMCA) divides into two branches: the left anterior descending (LAD) artery and the circumflex artery (CXA). Sometimes, an additional or intermediate artery (IMA) can emerge at the point of division, resulting in a trifurcation (Feger, 2023). The study aimed to determine variations in the left coronary artery (LCA) and its branches, along with an investigation into the bifurcation angle.

Materials and Methods. The research involved analyzing 17 heart specimens. The dissection process was carried out with specialized instruments to identify the left coronary artery and its primary branches. Using a protractor, the point of bifurcation of the LMCA into the LAD artery and CXA was evaluated. The LCA trunk's length and LMCA diameters were measured using a digital Vernier calliper.

Results. 11 hearts showed a bifurcation pattern, while six hearts had trifurcation. The bifurcation angle average was noted to be 85.12° ± 7.76. Hearts with three branches showed wider angles due to the increase in branching. However, one specimen had a 73° angle, which deviated from the average, indicating individual variations in coronary anatomy. The average diameters observed for major coronary arteries were 3.74 ± 0.75 mm for the LAD artery, 3.91 ± 1.22 mm for LXA, and 3.07 ± 1.15 mm for the IMA in 6 specimens. The length of the LCA trunk ranged from 3.59 mm to 11.74 mm, with an average length of 7.17 ± 2.46 mm. The LCA trunk's average origin was measured at 5.54 ± 1.42 mm, while the midpoint exhibited a dimension of 5.44 ± 1.36 mm, and the branching location was determed to be 6.57 ± 1.54 mm.

Conclusions. This study highlights diverse variations in left coronary artery anatomy and the importance of accurate bifurcation angle measurements for interventional procedures.

NEXT-GENERATION SEQUENCING IDENTIFIES NOVEL MICRORNAs ASSOCIATED WITH INTERVERTEBRAL DISC DISEASE IN THE LUMBAR SPINE

Authors: Kacper Stolarz:, Aleksander Osiowski, Maksymilian Osiowski, Maciej Preinl Tutors: Barbara Jasiewicz MD, PhD, Dominik Taterra MD

Domain: Clinical Genetics

Abstract:

Introduction: Intervertebral disc degeneration (IDD) of the lumbar spine is an often occurring, chronic, and expensive musculoskeletal condition that can cause radicular or unspecified back pain and may even lead to disability. While the precise etiology of IDD remains unclear, several risk factors, such as aging, genetic predisposition, mechanical load, and nutritional deficiencies, have been identified. A number of miRNAs and their functions have been investigated in intervertebral disc tissue, providing some insight into the underlying biological processes; however, the ultimate set of miRNAs involved in IDD remains unknown. Therefore, the aim of this study was to explore potential new miRNA markers of IDD.

Materials and methods: Thirty intervertabral discs were obtained operatively and included in the analysis. Discs were divided into two groups based on the degree of their degeneration, which was assessed with the modified MRI Pfirrmann scale (grades 1–8). Pfirrmann grades 1-3 were contrasted to Pfirrmann grades 4–8. miRNA-seq libraries were created using the TruSeqTM Small RNA Library Prep Kit, and then next-generation sequencing (NGS) was conducted with the Illumina NovaSeq 6000 device using the NovaSeq 6000 SP Reagent Kit v1.5 reagents. Eventually, miRNA mapping and bioinformatic analysis of the results were performed.

Results: Fourteen discs were included in the experimental group (Pfirrmann 4-8); eleven discs served as controls (Pfirrmann 1-3); and five discs were excluded from the analysis because of their poor quality. NGS, miRNA mapping, and bioinformatic analysis revealed differences in miRNA expression between the samples. A statistically significant ($p<0.05$) fold change (FC) was observed for three miRNA types: miR-451a (FC = 31.1), miR-486-5p (FC = 16.5), and miR-16-5p (FC = 8.1). All these miRNAs had a higher expression in the more degenerated experimental group.

Conclusion: Our study identified novel miRNAs that were not previously described in intervertebral disc disease.

RELATION OF AGE-RELATED HEARING LOSS AND COGNITIVE STATUS

Authors: Mila Crnojević

Domain: Otorhinolaryngology (ear, nose, and throat)

Abstract:

Introduction: Age-related hearing loss (ARHL) or presbycusis is a bilateral sensorineural hearing impairment that occurs due to aging of the structures of the inner ear and auditory pathways, and is the most common cause of acquired hearing loss. Presbycusis is a disabling condition that impairs all aspects of life and is a potential risk factor for cognitive decline.

Objective: To determine the existence and the degree of relation between ARHL and cognitive status, and to assess the quality of life of patients with presbycusis.

Material and methods: A prospective cohort study conducted at the Department of Audiology and Vestibular Medicine of the Clinic for Otorhinolaryngology and Head and Neck Surgery of the UCCV included a total of 60 subjects, aged over 65 years: 40 patients with presbycusis and 20 with normal hearing. Hearing threshold was examined using audiometry and expressed through the PTA2 value. Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA) were used to assess cognitive function, and the quality of life of patients was evaluated using the HHIE-S questionnaire.

Results: It has been established that 97.5% of patients with hearing loss exhibit a certain degree of cognitive decline, as well as that 90% have impaired quality of life. A statistically significant correlation was observed between PTA2 and the duration of hearing loss, on one side, and MoCA and MMSE results, on the other. It was found that primarily the hearing threshold, and then the duration of hearing loss, affect cognitive status, and that their combined influence is most significant.

Conclusion: A connection between age-related hearing loss and cognitive decline has been established , with the most significant factors being the hearing threshold and the duration of hearing loss, especially their combined impact. The obtained results directly indicate the necessity of effective and timely auditory amplification, even in individuals with mild hearing loss.

Keywords: presbycusis; age-related hearing loss; cognitive decline; quality of life

Assessment of Pediatric Patient with Neuroblastoma: Trends and Insights from 2016 to April 2024

Authors: Kamil Górecki

Co-authors: Katarzynw Witczak, Aleksandra Greluk, Małgorzata Mitura - Lesiuk PhD MD

Domain: Paediatrics

Abstract:

Neuroblastoma (NB) is the most prevalent extracranial solid tumor in pediatric patients. It is also the leading malignant neoplasm diagnosed in infants under one year of age. Originating from neural crest cells of the sympathetic nervous system, NB typically arises from the paraspinal sympathetic ganglia in the abdomen. NB is highly metastatic, often spreading to bone, liver, and less frequently, the intracranial region. The most common presentation is a painless abdominal mass, with symptoms such as bone pain, limping, periorbital ecchymosis and paraplegia. The stage of disease advancement

is crucial for predicting outcomes. This review includes clinical cases from the Department of Pediatric Hematology, Oncology, and Transplantology of Medical University of Lublin, Poland from 2016-2024 and the literature review.

Materials and Methods: A retrospective analysis was conducted on 17 patients with neuroblastoma stage I-IV or ganglioneuroblastoma. Additionally, 25 cases from the 2019-2024 were identified through PubMed for comparison.

Results: Patients ranged from 2 months to 7 years old, with a median age of 20 months at diagnosis. Neuroblastoma was diagnosed more frequently in boys (65%) than girls (35%). Primary lesions were located in the adrenal gland in 71% of cases. In 47% of cases, the diagnosis was accidental, with changes in bowel habits (18%) and abdominal pain (18%) being the most common symptoms.

Conclusions: In summary, many neuroblastoma cases were diagnosed incidentally, highlighting the need to consider metastasis in detected lesions and to search for primary tumors, typically in the abdominal cavity, especially the adrenal glands. Since most symptomatic cases involved the symptoms correlated with gastrointestinal systemand primary tumors were mainly in the abdomen. It is necessary to perform physical examination of the patient in order to maintain oncological vigilance.

Targets in Triple Negative Breast Cancer: Understanding the Unruly Nature

Authors: Katarzyna Witczak

Co-authors: Bartosz Piech, Magdalena Dubaj, Zuzanna Pelc MD

Domain: Oncology

Abstract:

Introduction: Triple-negative breast cancer (TNBC) is a heterogeneous and aggressive subtype characterized by high metastatic potential and poor prognosis compared to other breast cancer types. Unlike hormone receptor-positive cancers, TNBC lacks estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2) expression, rendering hormonal therapies ineffective. Various histological, genomic, and immunological subtypes exist within TNBC, complicating treatment strategies despite intensive chemotherapy, as recurrence rates and mortality remain significant.

Research focuses on identifying molecular targets and biomarkers to enhance diagnosis and therapy. Key pathways implicated in TNBC include p53, AKT signaling, cell cycle regulation, DNA repair, and apoptosis, offering potential therapeutic avenues. Recent advancements and understanding of the tumor microenvironment have led to novel agents such as PARP inhibitors, antibody-drug conjugates, and immune checkpoint inhibitors, presenting promising options for both early and advanced TNBC stages.

This review explores current therapeutic landscapes for TNBC, encompassing established and emerging targeted therapies, their efficacy across TNBC subtypes, and prospective clinical applications. Emphasis is placed on recent preclinical investigations and innovative treatment modalities, aiming to provide a comprehensive overview and future outlook in TNBC management.

Materials and methods: We conducted research using PubMed, utilizing studies from the last 5 years, and ClinicalTrials to identify recently completed and ongoing studies on TNBC.

Results: Based on searches in the PubMed database, we narrowed our work to describe androgen receptor inhibitors, PARP inhibitors, and immunotherapy along with antibody-drug conjugates (ADCs). We detailed the mechanisms of action of these drugs, as well as the advantages and disadvantages of each therapy.

Conclusions: Despite numerous treatment options for TNBC, finding the most effective strategy remains challenging. New molecular targets and therapies, including ICIs, PARP inhibitors, ADCs, and AR inhibitors, are improving patient outcomes and reshaping treatment approaches. Further research is needed to understand the TNBC and personalize treatments.

EARLY-STAGE LARYNGEAL CANCER: A COMPARISON BETWEEN 2 SURGICAL TECHNIQUES

Authors: Mihai Șamșodan, Andreea-Olivia Popa

Co-authors: Doinel Rădeanu MD, PhD(scientific coordinator), Bianca Alexandra Savin

Domain: Otorhinolaryngology (ear, nose, and throat)

Abstract:

Background: Laryngeal cancer, detected in its early stages (T1 or T2), benefits of multiple treatment options at the present moment. The aim of this systematic review is to compare the efficacy of transoral laser microsurgery (TLM) and open partial laryngectomy (OPL) by analyzing their respective rates of survival.

Material and Methods: PubMed was searched for articles with at least 50 patients, published in the last 10 years. We excluded articles analyzing only advanced stage cancers (T3 or above) and salvage surgery procedures. Patients were divided into two groups: one treated with TLM and the other with OPL. The performance of each technique was evaluated by overall survival rate (OS) and disease specific survival rate (DSS) and disease-free survival rate (DFS).

Results: Of 8 articles selected comprised of reviews, retrospective cohort studies and a meta-analysis, 4737 patients presenting early-stage laryngeal cancer underwent one of the procedures, including 2139 patients treated with TLM and 2598 with OPL. In a study with 760 patients by Wu et al. there have been identified similar 5-year OS for TLM and OPL (77.7% and 79.5%, respectively) and 5-year DSS rates (91.1% and 91.5%, respectively). Consistent results were still yielded (all $P > 0.05$), when stratified by gender, age, year of diagnosis, tumor site, T stage, differentiation, and adjuvant therapy. Gong et al., found the 10-year OS and DSS rates in patients undergoing TLM were not statistically different compared with patients treated with 2 OPL techniques.

Conclusions: The data collected data suggests there is no significant difference between the efficacy of the two techniques. We recommend further studies regarding the functional aspects, cost-effectiveness and quality of life to determine the best therapeutic outcome for the oncologic patient.

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WM266-4 melanoma cell proliferation in the presence of sodium thiosulfate, L-buthionine sulfoximine, and glucose oxidase

Authors: Konrad Kaleta, Leszek Rydz, Halina Jurkowska

Domain: Oncology

Abstract:

Introduction: Melanoma, a malignant tumor originating from melanocytes, is among the most dangerous skin cancers due to its high recurrence and metastasis rates. In the USA, five-year survival rates are 99% for localized melanoma, 65% for regional spread, and 25% for distant metastases, highlighting the need for more research to improve survival in advanced cases.

Desulfurative transformations of L-cysteine produce hydrogen sulfide (H_2S) and sulfane sulfur-containing compounds (for example persulfides (R–SSH), polysulfides (H_2S_n, $n \geq 2$ or R–S(S)nS–R, $n \geq 1$)). Enzymes which participate in these pathways such as 3-mercaptopyruvate sulfurtransferase (MPST) and thiosulfate sulfurtransferase (TST) are crucial for antioxidation processes, cyanide detoxification, and mitochondrial function, among others, through its importance in the synthesis of iron-sulfur centers. Notably, sulfane sulfur level is reduced in various cancer cells compared to normal cells.

Materials and methods: The studies were performed in human metastatic cutaneous melanoma WM266-4 cells. The melanoma cells were culture with different concentrations of sodium thiosulfate (a sulfane sulfur atom donor), L-buthionine sulfoximine (BSO, a drug that depletes intracellular glutathione level), and glucose oxidase (GOx, an enzyme that generates hydrogen peroxide during glucose oxidation to gluconic acid).

Results: Our study demonstrated that the proliferation of WM266-4 melanoma cells is inhibited in the presence of sodium thiosulfate in a concentration-dependent manner over 12, 24, and 48 hours. Additionally, analysis of sulfurtransferases expression in the presence of sodium thiosulfate (using RT-PCR and Western blot methods) showed an increase in TST and MPST expression at both the mRNA and protein levels. It was also observed that L-buthionine sulfoximine alone did not exert WM266-4 cell proliferation at the tested concentrations. However, pre-incubation of melanoma cells with BSO for 24 hours followed by the addition of glucose oxidase results in a marked decrease in cell proliferation.

Conclusion: Melanoma cells exhibit unique features of sulfurtansfearses expression. Our results suggest that sodium thiosulfate as well as the combination of BSO with GOx can be promise for melanoma therapy.

Unusual Rheumatic Disease Manifestation in a Young Male: A Case Report of Behçet's Disease

Authors: Olga Wilk

Co-authors: Ignacy Kosterski-Spalski

Domain: Rheumatology

Abstract:

Introduction: A 32-year-old male patient (M.W.) presented to the outpatient department at the University Hospital in Krakow with an 8-year history of recurrent arthritis of unknown etiology affecting the hand, wrist, and knee joints.

Case History: His medical history includes MODY diabetes and successful treatment for hepatitis C. Concomitant symptoms included recurrent oral ulcers, two episodes of noninfectious peripheral ulcerative keratitis, and an acneiform papulopustular rash on his legs. He also had a history of abdominal pain and diarrhea, which was investigated by a gastroenterologist, but he did not meet the criteria for inflammatory bowel disease that was initially considered. Six months before admission, he experienced an exacerbation characterized by pain, swelling, and morning stiffness in the affected joints.

Investigations: Ultrasound revealed mild synovial hypertrophy and effusion in the metacarpophalangeal and proximal interphalangeal joints. Histopathological examination showed ulcerations with neutrophilic infiltrates in the oral and colon mucosa.

Treatment/Results: Mesalamine was administered for gastrointestinal lesions, and methylprednisolone was used to manage arthritis flares. Given the clinical presentation and exclusion of other causes, Behçet's Disease (BD) was suspected. Significant improvement with colchicine supported the diagnosis.

Discussion: Behçet's Disease (BD) is a rare autoimmune/autoinflammatory systemic vasculitis that primarily affects regions along the historic Silk Road. It is characterized by recurrent oral ulcers, genital ulcers, uveitis, and skin lesions. Gastrointestinal involvement, peripheral ulcerative keratitis, and morning stiffness are uncommon, complicating the diagnosis. The patient's positive response to colchicine reinforced the diagnosis. Awareness of BD’s diverse presentations is crucial for timely and accurate diagnosis and treatment. The constellation of clinical abnormalities, exclusion of other potential causes, and successful trial with colchicine helped to establish the diagnosis.

Transcutaneous Biliary Drainage as a Method of Palliative Treatment in Biliary Tract Closure

Authors: Ignacy Kosterski-Spalski

Co-authors: Olga Wilk

Domain: Abdominal surgery

Abstract:

Introduction: A 67-year-old male patient in poor general condition was admitted to the University Clinic with icterus, pruritus, and somnolence.
Case history:
The patient was diagnosed with mechanical icterus, a bilirubin level over 400 mmol/l, and a Klatskin tumor – cholangiocarcinoma located at the confluence of the hepatic bile duct. Disqualified from resection, he was administered a palliative treatment.

Treatment/results: PTBD (Percutaneous Transhepatic Biliary Drainage) is recommended as palliative treatment for inoperable strictures disqualified from stenting (biliary tract diameter under 5 mm or prothrombin index below norms). Initially qualified for surgery, the patient was dismissed due to his age and stricture size. PTBD was performed under ultrasound guidance and appropriate anesthesia. Post-procedure, 350-450 ml of bile outflow was observed for three days, decreasing to 150 ml per day, with a significant decrease in bilirubin levels. Check-up examinations showed hepatic bile duct constriction improvement. The patient's quality of life improved (no pruritus or somnolence).
The patient died 120 days post-procedure due to cancer spread, including CNS metastasis.

Discussion: Biliary stricture is a complex clinical problem, with incidence due to malignant neoplasia in Europe ranging from 0.5 to 3.4 per 100,000. The common causes are primary malignancies of the biliary tract, pancreas or Vater's papilla, or metastatic lesions. Klatskin tumors are the most common cause. Strictures can be hilar or distal.
PTBD is a recognized palliative treatment for icterus in cholestasis patient’s ineligible for resection or ERCP. It focuses on improving the patient’s quality of life rather than serving as a therapeutic procedure.

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Deciphering Gastritis: Exploring Autoimmune Roots of Anemia

Authors: Diana-Maria Indrei, Pelea Michael Andrei MD

Co-authors: Hălmăgean Maria Cristina, Bese Diana-Mara

Domain: Gatro-enterology

Abstract:

Introduction and Case history: A 52-year-old female patient, R.M., presented for persistent dyspnea, fatigue, and stable angina. Upon examination, the patient exhibited generalised pallor, hypotrichosis, glossitis, hyperpigmentation on her palms and soles. The patient was a non-smoker, with a long-standing history of vitiligo.

Investigations: Blood tests showed high lactate dehydrogenase, pancytopenia with RBC (red blood cells) 1,13 million/mm3, WBC (white blood cells) 1890/mm3, platelets 48.000/mm3, Hgb 4,6 g/dl, MCV 126 fl, MCH 41,2 pg and reticulocytosis. Serum vitamin B12 level was <50 pg/ml. The findings on the peripheral blood smear showed anisopoikilocytosis, erythrocytes with Howell-Jolly bodies and hypersegmented neutrophils. Thyroid ultrasound raised suspicion of autoimmune thyroiditis, confirmed by low serum FT4 and high TSH. Upper gastrointestinal endoscopy showed thinning of the stomach lining, flattened rugal folds and visible submucosal vessels. The stomach biopsies revealed atrophic gastritis, histological changes included glandular hypotrophy, fibrosis, and inflammatory cell infiltration. Anti-intrinsic factor antibodies were positive.

Treatment: The patient was initiated on parenteral vitamin B12, resulting in notable improvements such as normalisation of the complete blood count and amelioration of digestive and neurological symptoms.

Discussions and differential diagnosis: The diagnosis of pernicious anemia relies on low serum B12 levels, positive anti-intrinsic factor antibodies and evidence of chronic autoimmune atrophic gastritis through endoscopic and histological findings [1]. Untreated, vitamin B12 deficiency associated with CAAG increases the risk of gastric cancer and improper function of the exocrine glands of the stomach [2]. This case study reveals the link between CAAG and pernicious anemia, often accompanied by other autoimmune diseases [3]. Early intervention is crucial, highlighting the risk of gastric cancer and iron deficiency due to hypochlorhydria. Due to the risk of malignancy, it is imperative to undergo careful monitoring. Other possible etiologies considered for pancytopenia were acute leukemia, myeloproliferative neoplasms, multiple myeloma, or antiphospholipid syndrome [4] .

Delayed Onset of Severe Anemia and Pseudo-Thrombotic Microangiopathy in a Post-Gastrectomy Patient: A Rare Complication of Vitamin B12 Deficiency

Authors: Andreea-Olivia Popa, Şamșodan Mihai

Co-authors: Iulia Tecar, MD; Abdulrahman Ismaiel, MD, PhD (scientific coordinator)

Domain: Gastro-enterology

Abstract:

Introduction: Individuals who have undergone gastrectomy are at an elevated risk of developing severe vitamin B12 deficiency due to the absence of gastric intrinsic factor and altered gastrointestinal anatomy. One rare hematological complication arising from vitamin B12 deficiency is pseudo-thrombotic microangiopathy.

Case History: An 81-year-old female with a history of gastric adenocarcinoma, who had undergone total gastrectomy with eso-jejunal Roux-en-Y anastomosis in 2017, presented with a six-month history of appetite loss and fatigue. Upon physical examination, jaundice was noted.

Investigations: Laboratory tests revealed pancytopenia characterized by severe macrocytic anemia, mild leucopenia, and moderate thrombocytopenia. Moreover, elevated total bilirubin (predominantly indirect), abnormal liver function tests, decreased albumin and total protein levels were observed. Hematologic analysis showed increased levels of iron, ferritin, folic acid, LDH, and reticulocytes, alongside significantly reduced vitamin B12 levels. Peripheral blood smear demonstrated the presence of schistocytes and hypersegmented neutrophils. Anti-parietal cell antibodies were negative, which allowed ruling out pernicious anemia, and both direct and indirect Coombs tests were negative, excluding autoimune hemolytic anemia.

Treatment: The diagnosis of pseudo-thrombotic microangiopathy secondary to vitamin B12 deficiency was confirmed. The patient was treated with intramuscular vitamin B12, leading to significant clinical and hematological improvement.

Discussion: This case is remarkable due to the late onset of severe anemia occurring six years after gastric cancer surgery. The patient’s condition exemplifies a rare complication of vitamin B12 deficiency manifesting as pseudo-thrombotic microangiopathy. The absence of anti-parietal cell antibodies and negative Coombs tests help differentiate this condition from other causes of anemia. This case underscores the necessity for a thorough diagnostic approach to identify unusual causes of anemia in post-gastrectomy patients. Prompt diagnosis and appropriate treatment of pseudo-thrombotic microangiopathy can yield positive outcomes.

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Operative treatment of the incarcerated hiatal hernia in the 95-years old patient – a case report

Authors: Zofia Zielińska; Wojciech Czajkowski MD, PhD

Domain: Thoracic surgery

Abstract:

Introduction: Hiatal hernia is a frequent pathology and its occurrence increases with age. However, incarcerated hiatal hernias are very rare with a lack of precise data in literature. This condition requires urgent surgical intervention.

Case History: A 95-year-old female presented with thoracic pain and general state deterioration, which was otherwise, relatively stable. A plain chest X-ray and a chest CT revealed a giant sliding incarcerated hiatal hernia. The patient was transferred to a thoracic surgical department.

Investigations: The diagnosis was established by the use of chest X-ray and chest/abdominal CT.

Treatment/results: The patient underwent urgent surgical treatment. Laparotomy was performed and the incarcerated hiatal hernia was found. The rim of the esophageal hiatus was cut to enable repositioning of the stomach from the thoracic into the abdominal cavity. The incarcerated part of the fundus was found viable with no necrosis. The hiatal crura were approximated with sutures and the Nissen fundoplication was performed. There were no intraoperative and postoperative complications.

On the last follow-up the patient's condition was stable, chest X ray revealed correct position of the stomach in the abdomen.

Discussion: Surgical procedures in elderly patients are a great challenge due to numerous risk factors, polypharmacy, comorbidities, and frailty syndrome. However, an incarcerated hiatal hernia is a condition that requires urgent surgery. Surgery of the incarcerated hiatal hernia may be performed with the use of laparoscopy or laparotomy. In the presented case, the laparotomy approach was chosen and the Nissen fundoplication was performed to prevent possible gastro-esophageal reflux disease (GERD). There was no postoperative morbidity, and the patient was discharged in a good condition.

From Nosebleed to ICU: Battling Toxic Shock Syndrome in a 78-Year-Old

Authors: Luka Phirtskhalava

Co-authors: Nikoloz Kvachadze

Domain: Otorhinolaryngology (ear, nose, and throat)

Abstract:

A 78-year-old male with a past medical history of myocardial infarction followed by aorto-coronary shunting, ischemic cardiomyopathy, atrial fibrillation, heart failure, hypertension, diabetes mellitus, and chronic hepatitis C, presented with recurrent nasal bleeding. The patient was managed with nasal tamponade, just like on the previous visit three days ago. Hours later the patient's condition rapidly deteriorated resulting in altered mental status, somnolence, tachycardia, fever, hypotension. The patient was suspected to have Toxic Shock Syndrome (TSS) and was placed in the Intensive Care Unit (ICU).

Treatment: The patient's condition was addressed according to sepsis protocol. He was started on broad-spectrum antibiotics (Piperacillin-Tazobactam, Vancomycin) and his blood pressure was well controlled on normal saline and crystalloids. He was also found to have significant coagulopathy (INR 3.40) which was addressed with intramuscular vitamin K.

Results: Laboratory studies showed elevated inflammatory markers and white blood cell counts, consistent with sepsis. Over the next few days, clinical and laboratory parameters improved significantly. Follow-up labs showed reduced white blood cell count and C-reactive protein levels. The nasal bleeding resolved, and no further episodes were noted. The patient was discharged in stable condition on February 9, 2024.

Discussion: Sepsis and septic shock are leading causes of in-hospital mortality. (1) For the patients with TSS who are misdiagnosed or the treatment is delayed, the mortality can exceed 50%. (2)Therefore this abstract highlights the importance of prompt identification and treatment of this condition, including the use of broad-spectrum antibiotics and supportive care, leading to significant clinical improvement and discharge.

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Extracorporeal carbon dioxide elimination in acute hypoxemic-hypercapnic respiratory failure in COVID-19

Authors: Dominik Iskrzyński – SSG of Anesthesiology and Intensive Care, Anna Wrzosek - MD PhD of Anesthesiology and Intensive Care, Michał Terlecki – MD PhD of Anesthesiology and Intensive Care

Domain: Anaesthesia

Abstract:

Introduction: A 38-year-old female patient was admitted to the intensive care unit for respiratory failure due to SARS-COV-2 infection. On admission, the patient was in very serious general condition, sedated, mechanically ventilated, with persistent hypercapnia[1] in arterial blood gas analysis.

Case history: A month and a half prior to admission, the patient was hospitalised in another intensive care unit where extracorporeal blood oxygenation technique (ECMO) was used for a month. Two days prior to admission, the patient had suffered a sudden cardiac arrest after bleeding into the airway.

Investigations: On the second day of hospitalisation, due to the persistence of extremely high pCO2 levels (up to 194 mmHg) and an oxygenation index of 100-120 mm Hg, the decision was made to introduce the extracorporeal carbon dioxide elimination (ECCO2R)[2] method.

Treatment/Results: After treatment, pCO2 values decreased to 50-70 mmHg, which was considered a significant improvement. By modifying the ventilation parameters, an improvement in blood oxygenation was also achieved (the oxygenation index increased from 65 to 180 mmHg). The technique was used for 6 days with a 24-hour break on the 3rd day of therapy, when the ECCOR filter was changed to a cytokine adsorber (Cytosorb) for 24 hours due to septic shock.

Discussions: The ECCO2R system is a promising alternative to other, more invasive methods of extracorporeal blood oxygenation (ECMO). It requires much lower blood flow rates and therefore can be connected to a standard dialysis system. The mentioned patient did not meet the criteria for reactivation of the VV-ECMO procedure[3], leaving ECCO2R the only option for improving gas parameters. A number of studies are currently underway to establish specific criteria for the inclusion and use of the described technique.

BATTLING THE ODDS: MANAGING OROPHARYNGEAL SQUAMOUS CELL CARCINOMA AND MULTISYSTEM COMPLICATIONS IN A HIGH-RISK PATIENT (A CASE REPORT)

Authors: Ioana-Alexandra Burghelea, Radu Sabău, Anna Szentgyörgyi, Petronela Cerasela Lujinschi MD

Domain: Oncology

Abstract:

Introduction: This case report describes the extensive medical consequences experienced by P.I., a 45-year-old male patient admitted for chronic, diffuse pain, predominantly in the oropharyngeal region, accompanied by diminished appetite and insomnia. A physical exam revealed that the patient was cachectic, adynamic, and presented trismus, dysphonia, and total dysphagia for liquids and solids.

Case history: The patient, with a history of tuberculosis, alcoholism and tobacco use, previously diagnosed with oropharyngeal cancer, received chemotherapy (Cisplatin) and Intensity-Modulated Radiation Therapy, which improved his condition. After missing periodic evaluations, the patient returned with severe pain and cancer complications. During his hospital stay, the patient developed acute mediastinitis.

Investigations: A previous oropharyngeal biopsy revealed keratinizing squamous carcinoma, p16-negative, denoting it was not associated with Human Papillomavirus (HPV). A recent contrast CT scan of the neck depicted a 29/34/42 mm tumour with intense peripheral iodophilia, located in the left tonsillar region, extending to the left half of the soft palate, and infiltrating the intrinsic tongue muscles. Left latero-cervical adenopathy was observed at level IIa (13mm in diameter) and level III (11mm in diameter). These findings resulted in the current diagnosis of oropharyngeal neoplasm (AJCC stage IVA, TNM staging T4a N2b M0). Moreover, bronchoalveolar lavage, coupled with real-time PCR, detected Rifampicin-negative Mycobacterium tuberculosis.

Treatment/Results: Total dysphagia was treated with gastrostomy. Acute mediastinitis responded well to an antibiotic regimen. Opioids and Dexamethasone (palliative medication in stage IV cancer) were used for pain management.

Discussions/Differential Diagnosis: Oropharyngeal squamous cell carcinoma (OPSCC), commonly associated with tobacco, alcohol use and HPV, poses serious complications, particularly when not HPV-associated. Furthermore, cancer, cachexia and treatments like radiotherapy and Dexamethasone can weaken the immune system, increasing the risks of tuberculosis reactivation and acute mediastinitis. Ultimately, this case underscores diagnostic challenges in distinguishing this pathology from HPV-associated-OPSCC and malignant lymphoma.

Multidisciplinary Surgical Management of Osteopetrosis in a 14-Year-Old Female

Authors: Jeremi Matysek

Co-authors: Krzysztof Dowgierd, MD

Domain: Oral and maxillofacial surgery

Abstract:

Introduction: A 14-year-old female presented with cachexia, muscle wasting, grayish skin, proptosis, splenomegaly, hepatomegaly, and joint contractures. Physical examination revealed characteristic features of osteopetrosis, a hereditary bone disorder leading to increased bone density and susceptibility to fractures, along with other complications such as pancytopenia and cranial nerve compression.

Case History: The patient, a 14-year-old female, was admitted to the Regional Specialized Children's Hospital in Olsztyn for evaluation and management of complications from osteopetrosis. Her medical history is complex, involving hydrocephalus, ventriculoperitoneal shunt placement, recurrent hospitalizations, and unsuccessful bone marrow biopsy attempts. Genetic testing confirmed mutations in the CLCN7 gene, confirming the diagnosis.

Investigations: Pathologic Changes: Severe anemia requiring blood transfusions, necrotic bone tissue in the maxilla.

Treatment/Results: Surgical intervention included soft tissue reconstruction in the maxilla using a submandibular flap and osteotomies to remove necrotic bone. The procedure was successful, and the patient was extubated postoperatively.

Discussion/Differential Diagnosis: This case underscores the complexity of managing osteopetrosis complications and highlights the need for a multidisciplinary approach. Further research is needed to optimize treatment and improve outcomes for patients with this rare disorder.

Case Report: Management of Pierre Robin Sequence in a Newborn with Mandibular Distraction Osteogenesis

Authors: Dominika Lech

Domain: Oral and maxillofacial surgery

Abstract:

Introduction: A newborn male, delivered via cesarean section at 38 weeks of gestation, presented with mandibular hypoplasia, cleft palate, and low-set ears. Apgar score was 10. On the first day of life, he was transferred to the hospital with suspected Pierre Robin sequence.

Case History: At admission, the infant was in fairly good condition but exhibited signs of significant respiratory effort. Laboratory tests revealed respiratory acidosis and elevated C-reactive protein (CRP). Cranial ultrasound results were normal. Echocardiography showed a patent foramen ovale, and ophthalmologic examination identified a blocked tear duct on the right side.

Investigations: Due to respiratory difficulties, a nasogastric tube was inserted to improve airway patency, though this did not completely resolve the respiratory effort. Given the observed respiratory distress and to avoid feeding through the tube, the infant was scheduled for surgical correction. A computed tomography (CT) scan was performed, and at 40 days old, the infant underwent mandibular distraction osteogenesis with the placement of external distractors.

Treatment/Results: Postoperatively, the infant was transferred to the intensive care unit (ICU) and later to the Neonatal Pathology Department in good general condition. During his stay, the infant's condition gradually improved. Initially fed via a tube, he transitioned to feeding with a bottle and showed normal weight gain. Distraction commenced on the 4th day post-surgery, with two daily turns, continuing for 27 days, resulting in sufficient mandibular advancement. Follow-up CT of the craniofacial structure confirmed successful distraction.

Discussions/Differential Diagnosis: At 6 weeks old (132 days post-surgery), the infant was admitted to the Maxillofacial Surgery Department for the simultaneous removal of the external distractor and closure of the soft palate cleft. This case illustrates the importance of timely surgical intervention and multidisciplinary management in infants with Pierre Robin sequence to address respiratory and feeding difficulties, ensuring proper growth and development.

ATM mutation present in a patient with prostate adenocarcinoma – therapeutic implications

Authors: Maria Militaru, Florentina Claudia Militaru

Co-authors: Daria-Ștefania Neag, Alexia Cosmina Neag

Domain: Oncology

Abstract:

Introduction: F.B. 62-years-old, male, treated for arterial hypertension, presented for dysuria, pollakiuria, and low back pain. The only change at the physical exam was pain upon pressure or gentle percussion of the lumbar spine and sacrum. The rectal exam found an enlarged, nodular, hard prostate.

Case history: The onset of the symptoms was insidious three months before presentation. There was a progressive increase in intensity, mostly in the last two weeks.

Investigations: Grade 1 leukocytosis and a slight elevation of the alkaline phosphatase were found. Initial PSA value was 159 ng/ml. Prostate biopsy set the diagnosis of prostatic acinar adenocarcinoma Gleason 9 (4+5). CT scan showed suspicious lesions in the pelvic bones and pelvic lymphadenopathies and the scintigraphy confirmed the pelvic bone metastases. The tumor was classified stage IV (cT4N1M1b).

Treatment/Results: Hormonal and antiosteolytic treatment were started, association of chemotherapy was refused by the patient. After nine moths the patient improved clinically, CT scan showed regression of the bony and lymph node lesions and PSA reached the lowest level (0.2 ng/ml). The disease had a slow evolution under several lines of hormonal therapy, pursued for almost 2 years. Chemotherapy was added and pursued for 6 months, then external radiotherapy was proposed for 1 month. “Next Generation Sequencing” showed 2 mutations of the ATM gene. Treatment by Olaparib led to a clinical, laboratory, and CT improvement in 7 months, followed by a very slow progression of the disease. Death occurred 2 years after the initiation of Olaparib.

Discussions: We used this modern drug 4 months after its approval by FDA. As our patient had target mutations its use was fully justified. The effect on survival length and quality of life were very good.

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Hemi-clamshell approach for bilateral mediastinal goiter with severe tracheal compression

Authors: Luca-Mathew Epuras

Co-authors: Emanuel Palade, Alexandra Caziuc, Ioana-Medeea Titu, Florin Teterea, Cirjan Teodora-Gabriela, David-Andrew Epuras

Domain: Thoracic surgery

Abstract:

Introduction: AD, 60-years-old, female, presents at our thoracic surgery clinic visibly distressed with progressive dyspnea for 6 months. She also reports a recent onset of dysphagia when swallowing and lying down. Physical exam shows extensive wheezing, reduced breath sounds and stridor, with slightly decreased breath sounds bilaterally. A large left thyroid gland was identified on palpation.

Case history: Apart from a progressive evolution of dyspnea, our patient's medical history indicates a previous thyroidectomy of the right thyroid gland that was performed 15 years ago due to hypothyroidism.

Investigations: Due to the patient's compressive symptoms, a CT scan was performed and showed a large left thyroid lobe and two mediastinal paratracheal masses with severe tracheal compression and narrowing. To identify the origin of the masses and to exclude malignancy, an ultrasound guided needle biopsy was performed and concluded a benign goiter formation.

Treatment/ Results: Due to the nature of the masses and their compression on the trachea, the patient was urgently evaluated and planned for left thyroid and mediastinal mass resection. To remove all lesions using one approach and a single stage procedure, a cervicotomy extended by a right sided hemi-clamshell incision in the 4th intercostal space was necessary. For better exposure, the right thymic lobe including its superior horn was removed and the right pleural cavity was opened. The operation was a success and the patient made a full recovery.

Discussions/ Differential Diagnosis: Mediastinal goiters are a rare type of thyroid enlargement that represent the extensions of a cervical goiter through the thoracic inlet into the mediastinum. True mediastinal goiters originating from ectopic thyroid tissue as shown in our case are extremely rare and the evolution typically spans across decades with some patients remaining asymptomatic for years. It is therefore mandatory to exclude other differential diagnoses such as thymomas, lymphomas or even metastases.

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Diagnosis challenges of Acute myeloid leukemia (AML) with skin lesions and normal blood count debut in pediatric patients

Authors: Alexia-Cosmina Neag, Olteanu Elena Diana, Pruteanu Doina Paula

Co-authors: Neag Daria-Stefania, Militaru Maria

Domain: Oncology

Abstract:

Introduction: Acute myeloid leukemia (AML) consists of a heterogeneous group of diseases characterised by malignant hematological precursors cells with aberrant differentiation of the myeloid lineage and represents 15-20% of all leukemias in children.

Case history: A 5-year-old female patient presented with disseminated subcutaneous lesions located in the cephalic, cervical, thoracic and abdominal regions.

Investigations and Treatment: Her first symptoms appeared a month before with erythematous lesions associated with pruritus, initially located in the auricular region. The lesions had different stages of evolution: macular and nodular; afterwards lesions turn purple. They were initially diagnosticated as varicella, then nodous erythema and corticoid treatment was started with partial remission of the lesions. The family decided to seek consult in pediatric oncology. The blood count was normal and, initially, leukemia was excluded as diagnosis. The CT scan described the skin lesions with no other pathological findings. A punch biopsy was performed that showed with the immunohisto-chemical (IHC) profile suggesting a lymphoblastic lymphoma or an acute leukemia. The bone marrow aspirate and the flowcytometry oriented towards a dendritic plasmacytoid blastic cells proliferation. Corticotherapy was started as per protocol for lymphoblastic leukemia. The disease progressed under corticotherapy. In addition, immunohistochemistry antibodies were used to differentiate the dendritic plasmacytoid blastic cells proliferation from AML. In the end, the IHC and clinical data guided the diagnosis towards acute myeloid leukemia (AML). Treatment according to the protocol for AML was started. After the induction phase all the skin lesions were gone. As side effects the patient presented life threatening hematological and gastrointestinal toxicities.

Discussions/Differential Diagnosis: In conclusion, a diagnosis and treatment regarding oncologic pediatric diseases can be difficult to make and the patients with this kind of suspicions are recommended to be assisted by specialised services.

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DIAGNOSTIC COMPLEXITIES IN CHRONIC LYMPHATIC LEUKEMIA: A CASE REPORT

Authors: Bogdan-Valentin Roznovan

Co-authors: George Berar, Diana Bește, Ștefan Mîți, dr. Adrada Pârvu

Domain: Oncology

Abstract:

Introduction: The patient, V.C., a 76-year-old male, presented to the emergency room, complaining of fever syndrome, night sweats, headache, fatigue, and balance disorders. The objective exam revealed peripherical later cervical adenopathies, in the inguinal and axillar regions, that were mobile, elastic, and with no pain, anemia, leucocytosis, and hepatosplenomegaly.

Case history: The patient also suffers from prostate carcinoma, heart disease, and sensitive-motor neuropathy. Genetic testing was done for the common genetic causes of CLL (Chronic Lymphocytic Leukemia) but none were positive. On his first admission, a ”watch and wait” approach was adopted, given the fact that in incipient cases of CLL, it is not recommended to administer medication. On his second admission, based on the patient’s symptoms, and clinical and paraclinical findings, he was staged as RAI IV and Binnet C, and the first-line therapy with Obinutuzumab and Venetoclax was initiated.

Investigations: Immunophenotyping confirmed the diagnosis of CLL. No mutations were identified in the IGHV gene, correlated to a less favorable prognosis. On his second admission, there was an increase in leucocytosis, lymphocytosis, and neutrophilia, compared to the first one.

Treatment/Results: At his second consult, treatment with Obinutuzumab and Venetoclax was initiated. At first, 100 mg was administered intravenously, at a rate of 25 mg/h. Subsequently, the administration rate was increased to 900 mg, with a maximum rate of 300 mg/h. According to guidelines, the antihypertensives, prescribed after a cardiologic consult, were postponed during the therapy with chemostats.

Discussions/Differential Diagnosis: CLL is a heterogeneous disease and can sometimes be difficult to diagnose. Some clinical manifestations are similar to other diseases, such as lymphadenopathy, which can also be produced by adenocarcinoma dissemination. Therefore, differential diagnoses between CLL and other pathologies are crucial for better treatment and quality of life.

Down Syndrome, Leukemia, and Facial Nerve Paralysis - Clinical, Diagnostic, and Therapeutic Analysis of a case of a 3-year-old girl with an exceptional triad of symptoms

Authors: Natalia Zamorska

Co-authors: Gabriela Jarmocik-Mielecka MD

Domain: Paediatrics

Abstract:

Acute leukaemias are among the most common childhood cancers. Down syndrome is a significant risk factor for developing acute leukemia, notably increasing the likelihood of both ALL and AML. Facial nerve paralysis is an atypical manifestation of childhood leukemia. This neurological symptom may accompany viral infections, head trauma, or has a congenital nature. It may also coexist with tumors (and even be one of the first manifestations of the proliferative process). In this case study, we explore the complex interplay between these conditions in a 3-year-old girl who presented to the Emergency Department with facial asymmetry, heralding a cascade of diagnostic and therapeutic interventions.

A 3-year-old patient with phenotypic features of Down syndrome was brought to the Emergency Department due to facial asymmetry that appeared on admission in the morning and worsened in the subsequent hours. Due to the drooping of the right corner of the mouth and the inability to close the right eye, suspicion of peripheral facial nerve paralysis was raised. Additionally noted in the physical examination were bruises on the thighs and shins, small individual petechiae on the face, eyelid swelling, enlarged lymph nodes, and hepatomegaly. Diagnostic workup began with neurological consultation and imaging studies. CT imaging revealed inflammatory changes in the maxillary sinuses, mastoid processes, and tympanic cavities, with no significant pathologies described. Basic laboratory tests in the ED showed high leukocytosis, thrombocytopenia, and slightly elevated CRP. Further diagnostic procedures (bone marrow aspirate showing 89.7% blasts, cytogenetic, immunophenotypic, and molecular studies) led to the diagnosis of ALL pB "common" with partial CD33 co-expression. Due to facial nerve paralysis, involvement of the central nervous system by the proliferative process was confirmed (CNS status 3c). Treatment was initiated and continued based on the AIEOP-BFM ALL 2017 Protocol. Thanks to steroid therapy, the symptoms of facial nerve paralysis quickly resolved. The convergence of Down syndrome, leukemia, and facial nerve paralysis presents a unique and challenging clinical scenario. Therefore, it is crucial for doctors to be aware of the neurological symptoms of leukemia and consider such a diagnosis in the differential diagnosis of facial nerve paralysis. Diagnostic vigilance can prevent patients from suffering the consequences of delayed diagnosis.

A Rare Case Report: HELLP Syndrome in a Patient with Complex Multidisciplinary Pathology

Authors: Paulo Tiago Dos Santos Silva, Joana Alexandra Dos Santos Silva, Rithin Jacob Antony Rajan

Domain: Gynaecology

Abstract:

M.G., a 30-year-old pregnant woman at 35+5 weeks of gestation, presented to the emergency department with right epigastric pain, nausea, dizziness, and headaches. She is gravida 2, parity 0, HIV positive, and has a history of cholecystitis and a cesarean section due to unspecified preeclampsia in 2020.

Clinical examination revealed systolic hypertension and anisocoria, along with vertical and horizontal nystagmus. An MRI of the brain indicated cyst formation in the left hemisphere and the 4th ventricle, accompanied by pontine edema, leading to a non-urgent neurosurgery recommendation. Upon further evaluation in obstetrics, lab assessments showed elevated LDH levels, hepatic enzyme abnormalities, thrombocytopenia, hematuria, increased proteinuria, and creatinine levels. A uterine ultrasound further revealed oligohydramnios and fetal growth restriction, confirming a diagnosis of HELLP syndrome without preeclampsia-eclampsia, which necessitated the termination of the pregnancy.

An emergency cesarean section was performed, utilizing the lower segment of the uterus on the prior scar. The procedure included adjunctive therapies, such as antibiotic treatment, Magnesium Sulphate infusion, fresh frozen plasma, and platelet transfusion. The treatment plan also comprised Quamatel, Cefta, Enoxaparin sodium, Nifedipine, and Galferi, to which the patient responded positively.

The case of HELLP syndrome without preeclampsia-eclampsia is rare and is further complicated by the patient’s immunocompromised state and neurological issues. The need for early non-surgical intervention is highlighted to improve patient prognosis and reduce complications. This case underscores the complexities in diagnosing and managing such intricate medical conditions, contributing valuable insights for future studies.

Fallopian Tube Cancer Unmasked by Neurological Symptoms: a Case Report

Authors: Diana-Maria Indrei; Elisabeta Ioana Chera, MD; Raluca Ghica, MD

Co-authors: Cristina-Maria Hălmăgean

Domain: Gynaecology

Abstract:

Introduction/Case history: The following case highlights the atypical and rare onset of gynecological cancer with paraneoplastic syndrome and emphasizes the need for comprehensive assessment and early detection. [1]

We report the case of a 49-year-old woman, B.A., with progressive symptoms of dysarthria, gait instability, and dysmetria after a diarrheal illness. On examination, there was evidence of horizontal nystagmus and absence of superficial abdominal reflexes.

Investigations: Blood tests showed the presence of antinuclear antibodies = 159UI/ml and positive anti-Yo antibodies.

MRI of the head showed left parietal convexity meningioma. Vascular demyelination lesions suggested mild to moderate cerebellar atrophy.

The patient underwent a CT of the thorax, abdomen and pelvis that revealed a highly suspicious tubo-ovarian lesion consisting of a 66/35-mm left adnexal mass.

It has been decided that a gynecological examination was necessary to further assess the potentially malignant adnexal mass.

Surgery was performed via a Pfannenstiel incision, and an intraoperative frozen section diagnosis of fallopian tube carcinoma was made.

At inspection, the surgeon found a tumor of the left fallopian tube, of 6/4 cm, highly suspicious of malignancy. A left adnexectomy was performed and the pathology result came back positive for malignancy. The operation was completed with total hysterectomy with right adnexectomy, multiple peritoneal biopsies and an omentectomy.

The final histopathology report provided the diagnosis of high-grade serous carcinoma of the left fallopian tube.

Treatment: The postoperative evolution was favorable. The patient started adjuvant treatment, currently undergoing chemotherapy, with a slight remission of the neurologic symptoms.

Discussions: Typical neurological symptoms in cancer patients are common due to direct tumor invasion of the nervous system or neurotoxicity from chemotherapy. [2] In under 1% of cases, an autoimmune response that targets the neuronal tissue is developed. [3] Numerous antineuronal antibodies are associated with PCD, including anti-Yo antibodies. [4]

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SUCCESSFUL TREATMENT OF CEREBRAL ASPERGILLOSIS IN A PATIENT WITH ACUTE MYELOID LEUKEMIA

Authors: Teodora-Ștefania Badea

Co-authors: Ion Antohe, MD, PhD

Domain: Neurology

Abstract:

Introduction: Acute myeloid leukemia (AML) is an aggressive hematological malignancy. Its treatment induces an immunocompromised state, leaving patients vulnerable to various opportunistic infections, such as aspergillosis, which is caused by inhaling Aspergillus spores. Cerebral aspergillosis is a rare form of invasive aspergillosis, with mortality rates up to 70-100% in immunocompromised patients, due to its challenging diagnosis and poor response to antifungal therapy.

Case history: We present the case of a 64-year-old male, G. I., with FLT3-ITD positive AML. Despite prophylaxis after completing the remission induction therapy, the patient started displaying lower respiratory tract symptoms, then neurological ones, such as aphasia, bradylalia and bradypsychia, which initially raised suspicion of a stroke. These were followed by motor deficit and focal neurological findings.

Investigations: A pulmonary CT scan was performed, showing bilateral small nodules, with minimal adjacent ground-glass infiltration, indicative of an invasive fungal infection. Brain CT and MRI scans further suggested cerebral aspergillosis, which was confirmed by both serum and cerebrospinal fluid PCR tests.

Treatment: The patient began treatment with first-line antifungal medication, Voriconazole, to which Isavuconazole was added approximately a month later, leading to a slow, yet steady progress towards almost full recovery. A long-term treatment scheme with Isavuconazole and Midostaurin was started and periodical evaluation has shown favourable evolution, with no signs of infection recurrence ever since.

Discussions: Although cerebral aspergillosis can be fatal, early diagnosis and initiation of antifungal therapy, as well as a long-term treatment plan are key to increasing survival rates and preventing its recurrence. Regarding treatment, we noted that, while Voriconazole was a useful option, alternative medication, Isavuconazole, was not only equally effective, but, in fact, more suitable for the patient, receiving an overall better response.

WHITMORE'S DISEASE – A MAESTRO MASQUERADER

Authors: Jaziya Jabeen

Co-authors: Albin Joseph, Ardra M

Domain: Infectious diseases

Abstract:

Introduction: 42-year-old male patient K/C/O DM/HTN/DLP presented with complaints of swelling over the right upper side of neck since 3 weeks. Associated with productive cough for 3 weeks and single episode of blood-stained sputum. H/o recurrent episodes of tonsillitis. Vitals stable. On local examination, a 3x2 cm-sized round firm and tender swelling was found on the right upper side of the neck. O/E of oropharynx, bilaterally enlarged tonsils [grade II] and flushing of anterior pillars seen. Systemic examinations are normal. Routine blood investigations were sent. USG & FNAC done.

Case history: Provisional diagnosis of Tuberculous Lymphadenitis was made with the above symptoms, and the patient was treated with ciprofloxacin and clarithromycin but due to non-response, an incision & drainage of the right cervical abscess with a biopsy under GA were done. The aspirated pus was sent for acid fast staining, CBNAAT for TB and routine aerobic bacterial culture and sensitivity.

Investigations: FNAC: Right Upper Cervical lymph Node—necrotic granulomatous lymphadenitis. Culture grew non-lactose fermenting dry wrinkled colonies with a metallic sheen on MacConkey Agar, identified by VITEK 2 automated system as Burkholderia pseudomallei sensitive to ceftazidime, ciprofloxacin, cotrimoxazole, meropenem and levofloxacin.

Treatment/Results: Based on culture results, a diagnosis of Melioidosis with Right Cervical Lymphadenopathy was confirmed. Patient was then, started on INJ. Ceftazidime 2g IV Q8H for 14 days according to sensitivity report, followed by co-trimoxazole & doxycycline.

Discussion/Differential Diagnosis: Melioidosis/Whitmore's disease is caused by bacterium Burkholderia pseudomallei. Symptoms may range from mild fever and skin changes to severe pneumonia, abscesses, and septic shock, which could lead to death. Suppurative lymphadenitis caused by melioidosis is a rare encounter. This great imitator mimics malignancy, TB, and other infectious diseases, leading to misdiagnosis. Mandatory suspicion of the disease is required in uncontrolled diabetes mellitus and immunocompromised patients. There is a need to create awareness among doctors to consider Melioidosis as a differential for all immunocompromised patients presenting with such symptoms. High morbidity and mortality can be prevented by prompt microbiological diagnosis of the pathogen.

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ATYPICAL ETIOLOGY OF DIABETES IN A PATIENT WITH LUNG CANCER - WHAT IS THE CONNECTION BETWEEN DIABETOLOGY AND IMMUNOTHERAPY?

Authors: Kamil Górecki

Co-authors: Katarzyna Witczak, Jakub Gołacki MD

Domain: Pneumology

Abstract:

Introduction: Type 1 diabetes, an autoimmune disease, often coexists with other conditions from this group. There are many known cases of co-occurrence with diseases such as celiac disease or autoimmune thyroiditis along with insulin-dependent diabetes. However, the induction of insulin-dependent diabetes through pharmacotherapy is much rarer.

Case report: A 71-year-old patient was admitted to the Clinic of Endocrinology, Diabetology, and Metabolic Diseases in Lublin due to hyponatremia detected during a stay at the Pulmonology Clinic. Further laboratory tests revealed abnormal blood glucose levels, which turned out to be a manifestation of newly diagnosed autoimmune diabetes. The patient was under constant medical care due to an ongoing neoplastic process in the right lung, and the onset of carbohydrate metabolism disorders coincided with the initiation of a cycle of immunotherapy with pembrolizumab. Considering the overall clinical picture and the applied diagnostic and therapeutic methods, it can be concluded that the biological treatment induced the onset of type 1 diabetes in the patient.

Conclusions: The standard for diagnosing lung cancer involves classification based on molecular characteristics and genetic mutations. Biological treatment (immunotherapy) can be applied to cancers that exhibit a programmed death receptor-1 (PD-1) mutation. However, it is crucial to always consider potential side effects, such as autoimmune diseases. Therefore, an interdisciplinary approach to the oncology patient is essential to treat not only the primary disease but also coexisting conditions and complications related to pharmacological treatment.

Deep fungal infection of the beard in atopic dermatitis patient – case report

Authors: Wiktoria Stanska

Co-authors: Paulina Adrian

Domain: Dermatology

Abstract:

Introduction: Tinea barbae profunda is a dermatophyte infection of the beard, and although rare, patients with certain conditions like immunosuppression and impaired skin barrier are at risk of developing it. We report a 17-year-old male patient with Tinea barbae profunda who was successfully treated with oral antifungal agents.

Case history: A 17-year-old man with a history of atopic dermatitis was admitted to the Dermatology Department. On admission, the patient presented erythematous infiltrative lesions with pustules on the chin and lower part of the mandible and diffuse ring-shaped scaly erythematous lesions on the neck, trunk, arms, and left thigh. The patient was treated with mometasone furoate, tacrolimus, bilastine ointment, and amoxicillin with clavulanic acid p.o. without any improvement.

Investigations: Laboratory findings revealed slightly elevated C-reactive protein (15,8 mg/l). Blood tests for HIV, HCV infection, and syphilis were negative. A direct mycological examination from the affected areas was positive, and Trichophyton mentagrophytes was cultured. Lesions from the chin and neck were not eligible for sampling because of previous local steroid use.

Treatment and results: Based upon the clinical picture, the patient was diagnosed with Tinea barbae profunda and Tinea cutis glabrae of the trunk and extremities. Skin lesions were improved by administering fluconazole (100 mg/day) and cefuroxime axetil (1000 mg/day) with local treatment. The patient was discharged from the hospital in good condition, continuing the treatment with topical and oral terbinafine (250 mg/day).

Discussion and differential diagnosis: Due to the rarity of Tinea barbae, it is often misdiagnosed. It is seen almost exclusively in men. Hence, careful examination and taking a detailed history facilitate prompt diagnosis and satisfactory therapeutic outcomes. Differential diagnosis should include bacterial folliculitis, pseudofolliculitis barbae, contact dermatitis, acne vulgaris, acne rosacea, perioral dermatitis, and herpes simplex. The mainstay of treatment are oral antifungals, while topical therapy is only adjuvant.

The Role of Liquid Biopsy in Lung Cancer Diagnosis

Authors: Sînziana-Petruța Mihai, Assistant Professor Andreea Catana MD PhD

Co-authors: Stefania-Maria Mocrei-Rebrean

Domain: Oncology

Abstract:

Introduction and Case history: What happens when the clinical presentation of a patient raises suspicion of malignancy, but the imaging techniques do not reveal any tumoral mass? Shall physicians proceed with differential diagnosis, or simply trust their intuition and investigate further? This case report highlights the importance of advanced diagnostic approaches combining oncology and genetics.

A 62-year-old non-smoker female patient presenting symptoms suggestive of Neuroendocrine Tumor (weight loss, inappetence, skin flushing, diarrhea) completed a Computed Tomography (CT) scan and a Magnetic Resonance Imaging (MRI) examination, with no conclusive evidence of a primary tumor, despite elevated serum levels of Serotonin and Chromogranin A – neuroendocrine activity indicators.

Investigations and Results: Considering the discrepancy between the clinical aspects and the lack of imaging findings, the pacient received genetic counselling and underwent liquid biopsy: a minimally invasive blood sample used to detect circulating tumor cells, circulating tumor DNA and to characterize genomic alterations (TruBlood Advanced). Through the immunocytochemistry analysis performed on the apoptosis-reluctant cells, this molecular profiling revealed the existence of cells consistent with adenocarcinoma, notably of the lung. The histopathological examination following surgery emphasized indeed the diagnosis provided by the above-mentioned technology, putting the clinical manifestations into perspective: Adenocarcinoma with 25% Neuroendocrine Differentiation.

Discussions: This case report illustrates the challenges which physicians sometimes encounter regarding malignancy diagnosis. Nowadays, these can be successfully handled using liquid biopsy, acknowledged for its high tolerability and minimal invasive character. Owing to the molecular biomarker assessment, it does not only enhance clinical reasoning, but also it promotes targeted treatments and enables immunotherapy advances. However, as reflected by this case, liquid biopsy is still complementary to the traditional tissue sampling, since it does not provide in-depth tumor analysis yet.

Treatment patterns in ALK-positive pulmonary adenocarcinoma - a case report

Authors: Maria Melissa Resetar

Co-authors: MD Patka Annamaria, MD PhD Claudia Cristina Burz, Radu Sabău, Eugen-Valentin Răducu, Vlad Răzniceanu

Domain: Oncology

Abstract:

We present the case of a 45-years old patient diagnosed one year ago with pulmonary adenocarcinoma cT4N2M1, with ALK-positive (anaplastic lymphoma kinase) mutation, currently under treatment with Lorlatinib. At the clinical examination we report the presence of a facial skin rash and a post-splenectomy scar.

The patient's medical history reveals BPOC std III GOLD, arterial hypertension std. II, hepatic steatosis and a renal cyst. On 25.01.2023 he was diagnosed with pulmonary adenocarcinoma and was admitted to our institution for oncological treatment. The mutational status revealed ALK-positive mutation and CT scans showed bone, hepatic and neurocranial metastases. At the end of the year, he underwent a splenectomy with favorable results after findings of a spleen infarction. Recently, his wife noted aggressive behavioral changes and amnesia.

The histopathological examination after splenectomy showed a suggestive microscopic pattern for Gaucher's disease. Periodical CT scans showed pulmonary hilar neoplastic processes and at the level of the right inferior and superior lobes, lymphangitic carcinomatosis in the right superior lobe, multiple mediastinal tumoral adenopathies and the presence of hepatic and bone metastasis.

Alectinib was prescribed as the primary treatment for the ALK-positive adenocarcinoma and bisphosphonates were administered for the multiple bone metastases. The treatment was switched to Lorlatinib with successful results initially, but in almost one month the patient experienced psychiatric side effects which compelled the medical team to lower its recommended dosage.

ALK-positive adenocarcinoma occurs in only 5% of non-small-cell lung cancer and it is frequently diagnosed in advanced stages. This case highlights the challenging oncological treatment process and the complications associated with it. Poor response to medication might occur when patients present gene mutations that cause resistance. Similarly for our patient, the treatment is switched from Second-generation ALK inhibitors (Alectinib) to third-generation ALK inhibitors (Lorlatinib). Moreover, our patient experienced rare (3-5%) psychiatric side effects that challenged the medical team to switch the therapeutic procedure once more.

Rapid Recurrence of Multiple Myeloma as Secondary Plasma Cell Leukemia after Autologous Stem Cell Transplantation

Authors: Vlad Răzniceanu

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Domain: Oncology

Abstract:

Introduction: Secondary plasma cell leukemia (PCL) appears in the context of previously diagnosed extramedullary plasmacytoma and multiple myeloma. In this case, M.B., our 52-year-old female patient, had the following initial complaints suggestive of multiple myeloma: pain in the lumbar region and lower limbs associated with recent involuntary weight loss.

Case History: During follow-up tests, thrombocytopenia, anemia and extensive, diffuse osteolytic lesions affecting the lower lumbar vertebrae and all bones of the pelvic girdle are discovered. History and physical examination highlighted spontaneous ecchymoses, fatigue, rapid weight loss, and refractory pain in the lower limbs. During her last admission, the patient develops jaundice alongside elevated biochemical markers of cholestasis. Computer tomography discovers intrahepatic duct dilation, but therapeutic ERCP stent-placement cannot performed due to pancytopenia-associated risks.

Investigations: Following the initial presentation, imaging is performed and a tumoral mass at S1-S2 levels is found via MRI. Final diagnosis is determined once histopathological examination indicates an extramedullary plasmacytoma, with subsequent serological workups confirming lambda light-chain multiple myeloma ISS stage III. With new bone lesions revealed by MRI imaging, secondary PCL is suspected 8 months post-autologous stem cell transplant (ASCT) and confirmed via peripheral blood smear.

Treatment & Results: Quickly upon initiation of maintenance treatment after undergoing an ASCT, the patient develops secondary PCL with thrombocytopenia and hepatic plasmocytic infiltration. Despite multiple chemotherapeutic interventions and targeted therapy with Teclistamab, to which the patient displayed a transitory response, an episode of hemodynamic instability resulted in death due to cardiorespiratory arrest.

Discussions: PCL is an aggressive and rare form of multiple myeloma that more commonly arises as an initial manifestation of the disease. The case at hand, with PCL arising in the context of rapid post-transplant recurrence, calls for the evaluation of risk factors involved, while the late-stage presentation underscores the importance of improving current screening approaches.

Unique Presentation of Thyroid Cancer: A Case of High-Grade Follicular Cell-Derived Differentiated High-Grade Thyroid Carcinoma (DHGTC) and Poorly Differentiated Thyroid Carcinoma (PDTC) in Bilateral Thyroid Lobes

Authors: Joanna Najbar

Co-authors: Oskar Makuch, Jakub Kołakowski

Domain: Thoracic Surgery

Abstract:

Our patient, a 78-year-old woman, presented with symptoms suggestive of thyroid pathology - dyspnoea, neck pain and difficulty swallowing. Physical examination revealed a hard, immobile tumor in the neck area. A detailed diagnosis for suspected thyroid cancer was initiated.

The patient was hospitalized in the department of thoracic surgery. Based on the initial diagnostic imaging and physical examination, the decision was made to perform a fine-needle biopsy of the thyroid gland.

The examination revealed tumors in both lobes. The right lobe contained a cream-colored mass measuring 5.4 cm x 2.9 cm x 2.9 cm with prominent vitreous areas on cross-section. Microscopic analysis showed it to be a high-grade follicular cell-derived differentiated high-grade thyroid carcinoma (DHGTC), infiltrating the thyroid capsule. The left lobe harbored a larger tumor measuring 7.8 cm x 8.3 cm x 4.7 cm, consisting mainly of vitreous tissue. Microscopic examination revealed poorly differentiated thyroid carcinoma (PDTC). The tumor infiltration covered most of the thyroid lobe (approximately 90%). Numerous emboli of cancer cells were present in the vessels.

The patient underwent a total thyroidectomy. Postoperative histopathological examination confirmed the presence of DHGTC in the right lobe and PDTC in the left lobe. Further treatment included radiotherapy.

Although papillary and medullary thyroid cancers are also possible, this case specifically involves two different types of follicular cell carcinoma. PDTC and DHGTC are rare thyroid cancers, recently reclassified as distinct but clinically similar entities. The positive aspect is that early detection of DHGTC frequently leads to a favorable response to surgical treatment. However, PDTC in the left lobe is associated with a worse prognosis and requires more intensive treatment. Given the presence of both types of cancer in this patient, she is likely to benefit from comprehensive treatment.

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Surgical Management of Keratocystic Odontogenic Tumors in a 13-Year-Old Male: A Case Report

Authors: Jeremi Matysek

Co-authors: Krzysztof Dowgierd, MD

Domain: Oral and maxillofacial surgery

Abstract:

Introduction: A 13-year-old male patient presented with a jaw tumor on the left side. The patient's mother noticed facial asymmetry three months prior. The patient was asymptomatic and had no chronic diseases, allergies, or recent infections. Physical examination revealed facial asymmetry, jaw distension, and facial dysmorphia.

Case History: The patient was referred by a general practitioner to an otolaryngologist and subsequently to our center. There was no history of chronic diseases, medication, or allergies. Vaccinations were up to date per national guidelines.

Investigations: CT scan of the facial skeleton showed four well-defined, unilocular osteolytic lesions with sclerotic margins in the maxilla and mandible, demonstrating an expansile growth pattern. Significant findings included:

Right maxillary lesion (50x41x47 mm) occupying most of the sinus cavity, thinning the cortical bone, and obstructing nasal passages.

Left maxillary lesion (55x44x54 mm) also filling the sinus cavity, with possible cortical bone discontinuity and orbital floor elevation.

Left mandibular lesion (32x16x23 mm) with bone expansion and cortical thinning.

Right mandibular lesion (14x33x23 mm) near the chin, exhibiting bone expansion and cortical scalloping.

Treatment/Results: The patient underwent surgical enucleation of the tumors in the left and right maxilla, the body of the mandible near the chin, and the left mandibular angle. Postoperative recovery was uneventful, and histopathology confirmed benign cystic lesions consistent with odontogenic keratocysts.

Discussion/Differential Diagnosis: The clinical presentation and radiologic findings were indicative of odontogenic keratocysts, a hallmark of Gorlin-Goltz syndrome (nevoid basal cell carcinoma syndrome). Differential diagnoses included ameloblastoma, dentigerous cysts, and fibrous dysplasia. The presence of multiple jaw cysts and intracranial calcifications supported the diagnosis of Gorlin-Goltz syndrome, necessitating further genetic counseling and long-term follow-up.

Oral presentations

CHA2DS2-VASc score as a mortality predictor in patients with decompensated heart failure with preserved ejection fraction. First report from LECRA-HF registry

Authors: Maria Kurek

Co-authors: Olaf Kądzioła, Konrad Stępień, Aleksander Siniarski, Alicia del Carmen Yika, Natalia Kachnic, Aleksandra Karcińska, Michael Platschek, Zuzanna Wyleciał, Karol Nowak, Maciej Polak, Jadwiga Nessler

Domain: Cardiology

Abstract:

Introduction: The mortality rate in acute heart failure (HF) with preserved ejection fraction (HFpEF) remains high. In the recent years the prognostic role of CHA2DS2-VASc score, initially formulated for embolic risk prediction in atrial fibrillation (AF), has been shown in other diseases including HF. We sought to analyze a long-term mortality in decompensated HFpEF patients depending on CHA2DS2-VASc score.

Patients and methods: 261 (22.74%) out of 1148 patients included in the single-center Lesser Poland Cracovian Heart Failure (LECRA-HF) Registry between 2009 and 2019 were diagnosed with decompensated HFpEF. After evaluating clinical characteristics, we identified 213 (81.61%) subjects with CHA2DS2-VASc score more or equal 4 points and 48 (18.39%) with less than 4.

Results: Patients with CHA2DS2-VASc ≥4 were mostly females (65.3 vs 27.1%, P<0.001), they were older (79 vs 64 years, P<0.001), and were more often characterized by classic cardiovascular risk factors. Atrial fibrillation (62.9 vs 31.3%, P<0.001), prior myocardial infarction (24.5 vs 6.3%, P=0.005), percutaneous coronary intervention (23.2 vs 4.2%, P=0.003) and coronary artery bypass surgery (11.4 vs 2.1%, P=0.049) were also more likely identified in that group. Higher baseline GFR (by 26.7%, P<0.001), potassium (by 4.4%, P=0.023), hemoglobin (by 10.3%, P<0.001), as well as hematocrit (by 8.1%, P=0.003) were noted in CHA2DS2-VASc <4 patients. In a long-term follow-up (median 4.3 years), overall mortality was significantly higher in CHA2DS2-VASc ≥4 patients (P=0.005) and CHA2DS2-VASc ≥4 was its independent predictor (hazard ratio 1.986, 95% confidence interval 1.195-3.298). In a multivariable Cox regression analysis, each one-point increase in CHA2DS2-VASc score raised all-cause mortality risk by 32%.

Conclusions: As has been shown for the first time in literature CHA2DS2-VASc score is the independent prognostic parameter in acute HFpEF

THE BURDEN OF OCCUPATIONAL BURNOUT AMONG RESIDENT DOCTORS AT A TERTIARY CARE CENTRE IN INDIA: A COMPREHENSIVE STUDY ON PREVALENCE, DIMENSIONS, AND INFLUENCING FACTORS

Authors: Jaziya Jabeen

Co-authors: Albin Joseph, Indu K Gopi, Varghese P R

Domain: Psychiatry

Abstract:

Introduction: Burnout is a psychological syndrome due to a prolonged response to persisting stress on the job characterized by overwhelming physical & mental exhaustion and a lack of accomplishment, leading to decreased professional efficacy. According to the WHO, burnout is included in the ICD-11 as an occupational phenomenon and is not classified as a medical condition.

Objectives :
• To assess the prevalence of occupational burnout among resident doctors in a tertiary care centre, Central Kerala , India
• To identify factors contributing to occupational burnout among resident doctors

Methodology : A descriptive cross-sectional study was done among 114 resident doctors. The survey had 3 parts, which included demographic data, a validated 19-item questionnaire, The Copenhagen Burnout Inventory (CBI), with questions on burnout divided into 3 scales—personal, work-related and patient-related—and a checklist consisting of possible factors contributing to burnout identified by extensive literature search. The data was analysed in IBM SPSS v25.

Results: Over 65.8% of residents experienced moderate burnout, with 44.7% reporting high personal burnout, 63.2% moderate work-related burnout, and 42.1% moderate patient-related burnout. Feeling of loneliness, lack of adequate support system, discrimination/harassment at workplaces, specialties causing excessive workloads and lack of confidence in dealing with patients correlated with work-related, patient-related and total burnout ($p<0.05$). Pressure of malpractice suits recorded high personal burnout ($p = 0.027$), work-related responsibilities at home, lack of control, lengthy work hours, and frequent call duties showed significant work-related burnout ($p<0.05$), while frequent call duties recorded high patient-related burnout ($p = 0.036$).

Conclusion: Prioritizing the mental and physical health of residents is essential. Negligence to these, can lead to suboptimal patient care and medical errors. To ensure the quality of the healthcare system, assessment at various levels and the implementation of evidence-based solutions, are crucial for effective policy interventions, training strategies, and a conducive work environment.

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The Role of Alarmins in Psoriasis – Systematic Review

Authors: Wiktoria Stanska, Kajetan Kiełbowski, Estera Bakinowska, Marcin Rusiński, Andrzej Pawlik

Domain: Dermatology

Abstract:

Introduction: Alarmins are immune activating factors released after cellular injury or death, that by interacting with immune cells induce a variety of inflammatory responses. The broad family of alarmins involves high mobility group box 1, S100 proteins, interleukin-33, and heat shock proteins, among others. Studies have found that the concentrations and expression profiles of alarmins are altered in immune-mediated and inflammatory conditions. This systematic review aims to present current evidence on the role of alarmins in psoriasis and the impact of pharmacological agents on their expression.

Materials and methods: A thorough search through PubMed was performed. Inclusion criteria consisted of articles presenting original data, in English. We searched using the keywords: “psoriasis” and the following: “HMGB1”, “S100 proteins”, “LL-37”, “Cathelicidin”, “HSP”, “beta-defensins”, “IL-33” or “IL-1α”.

Results: A total of 108 articles were included in this systematic review. In the course of psoriasis higher expression of HMGB1, S100A7, S100A12, S100A8/A9, beta-defensins, TSLP, and IL-33 were observed in both serum and skin. While higher expression of S100A2, S100A8, S100A9, cathelicidin, HSP27, HSP60, HSP90 α was found only in keratinocytes. Moreover, serum HMGB1, S100A7, S100A12, and TSLP correlated with the disease severity measured by the PASI score. More evidence shows that biological treatment currently used in the therapy of psoriasis eg. etanercept, secukinumab, or tacrolimus also exert their effect by affecting alarmins.

Conclusions: Current evidence shows that the level of alarmins in psoriasis is altered, which with the results of research in basic sciences suggests that alarmins are involved in the pathogenesis of the disease. Given the simplicity of measuring their level in the serum, these molecules have the potential to serve as diagnostic biomarkers or can be used to monitor disease activity and treatment response. We hope that further studies will facilitate the implementation of blood tests for alarmins, enabling personalised approach.

Efficacy of mast cell directed therapies in irritable bowel syndrome: a systematic review

Authors: Stiévenard Thomas; Coppens Daan; Kips Max; Mertens Caro; De Schepper Heiko

Domain: Gastro-enterology

Abstract:

Background and study aim: Lately, mast cells (MCs) are increasingly implicated in the pathophysiology of irritable bowel syndrome (IBS). The aim of this systematic review was to assess the efficacy of mast cell directed therapies in reducing the main symptoms of IBS: abdominal pain and changes in stool frequency or consistency. Patients and methods: Pubmed, Web of Science and Scopus were searched until December 19, 2022. Trials evaluating the efficacy of mast cell directed therapies, compared to placebo or any form of control group, were included. Trial selection was performed in two stages: screening titles and abstracts and reviewing full papers identified as relevant, taking into account the inclusion criteria. Results: The search strategy identified a total of 1.384 citations. Eleven trials on 943 IBS patients and 197 controls were included: ten randomized controlled trials, two of which cross-over trials, and one cohort study. Of the 11 studies included in the systematic review, only three studies were found to be at low risk of bias. This limited evidence suggests a significant overall improvement in the key symptoms after treatment with disodium cromoglycate, ebastine, ketotifen or palmitoylethanolamide-polydatin compared to control groups. Conclusions: Mast cell modulating therapies could be of significant value in therapy for IBS patients. Further high-quality research is needed to establish the therapeutic efficacy of mast cell targeted therapies in order to draw robust conclusions and improve the clinical management of irritable bowel syndrome.

Gallstone ileus – a case report with presentation of surgery technique using laparoscopic approach

Authors: Anna Dąbrowska

Co-authors: Wojciech Serednicki MD

Domain: Abdominal surgery

Abstract:

Introduction (patient info: initials, age, sex, signs and symptoms, physical exam modifications): A 56-year-old female was admitted to the emergency department with abdominal pain, bloating, constipation, nausea and vomiting. Patient's medical history included hysterectomy and radiotherapy due to endometrial carcinoma, hypertension, hypercholesterolemia, hypothyroidism and obesity (BMI 37,8). POCUS performed on ED revealed cholecystolithiasis, gastroparesis, dilated bowel loops up to 3 cm with to-and-fro peristalsis.

Case history: Ileus was suspected and the patient was referred to the general surgery department.

Investigations (pathologic changes only): The diagnostic process was extended to radiological gastrointestinal passage examination with administration of oral gastrografin solution what revealed the absence of contrast in the colon and air fluid levels in the small intestine. Also about 1800 ml of residual stomach content was present in a nasogastric tube that was previously inserted.

Treatment/Results: The patient was qualified for laparoscopic surgery. Intraoperatively multiple adhesions after pervious hysterectomy were observed. The adhesions were relieved, but they didn't appear to be a cause of obstruction. The small intestine were carefully overlooked – a gallstone in the intestinal lumen was visualized. The enterotomy was performed, a longitudinal incision was made and a gallstone was evacuated. The intestine was closed transversally with two layers of V-loc 3.0 suture. Patient was discharged at 5 POD passing stool and with good tolerance of oral diet.

Discussions/Differential Diagnosis: Gallstone ileus is a significant, but rare, cause of mechanical bowel obstruction in adults. In most cases the gallstone reaches the intestine through biliary-enteric fistula that could be a complication after cholecystitis due to cholelithiasis. In our patient the cholelithiasis was visualized during preoperative ultrasound and in postoperative outpatient clinic a magnetic resonance cholangiopancreatography was scheduled to diagnose possible fistula. The treatment of gallstone ileus is preferably surgical and laparoscopy in emergency surgery provides a number of advantages, such as reduced postoperative pain, shorter hospitalization time and reduction of postoperative mortality.

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THE PROTHROMBOTIC STATE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND ISCHEMIC HEART FAILURE: AN ASSOCIATION WITH VASCULAR DYSFUNCTION

Authors: Aleksandra Karcińska

Co-authors: Alicia del Carmen Yika, Karol Nowak

Domain: Cardiology

Abstract:

Introduction: Heart failure (HF) is associated with a prothrombotic state and an increased risk of thromboembolism, regardless of the presence of atrial fibrillation (AF). Other factors enhancing coagulability are type 2 diabetes mellitus (T2DM) and coronary artery disease (CAD), what could be related to multiple mechanisms including endothelial (ED) and vascular (VD) dysfunction. We investigated whether the prothrombotic state in patients with T2DM, CAD, and HF, depends on the left ventricular ejection fraction (LVEF) or ED

Methods: We enrolled 54 patients with stable chronic HF, CAD, and T2DM. Based on echocardiography 28 subjects had HF with reduced EF (HFrEF) and 26 had HF with preserved EF (HFpEF) according to guidelines. Fibrin clot density reflected by clot permeability (Ks) and thrombin generation were evaluated. ED and VD were determined in flow-mediated (FMD) and nitroglycerin-mediated dilatation (NMD) of the brachial artery.

Results: HFrEF subjects had lower Ks by 20.3%, along with higher endogenous thrombin potential (ETP) by 18.9% and Peak thrombin level by 24.1% as compared with HFpEF. While there were no differences in FMD and NMD between subjects, we found correlations of NMD with ETP and Peak ($r=-0.448$, $P=0.001$; $r=-0.304$, $P=0.034$, respectively). The glomerular filtration rate (GFR) and LVEF were also significantly associated with both thrombogram parameters ($P<0.01$ for all). By the multivariable analysis, NMD, LVEF, low-density lipoprotein and GFR were predictors of ETP ($R2=0.530$, $P<0.001$).

Conclusion: Patients with ischemic HFrEF and T2DM presented altered fibrin clot properties and enhanced thrombin generation compared to HFpEF. It might be hypothesized that VD induced by T2DM could intensify hypercoagulability in HF.

Down Syndrome, Leukemia, and Facial Nerve Paralysis - Clinical, Diagnostic, and Therapeutic Analysis of a case of a 3-year-old girl with an exceptional triad of symptoms

Authors: Natalia Zamorska

Co-authors: Gabriela Jarmocik-Mielecka MD

Domain: Paediatrics

Abstract:

Acute leukaemias are among the most common childhood cancers. Down syndrome is a significant risk factor for developing acute leukemia, notably increasing the likelihood of both ALL and AML. Facial nerve paralysis is an atypical manifestation of childhood leukemia. This neurological symptom may accompany viral infections, head trauma, or has a congenital nature. It may also coexist with tumors (and even be one of the first manifestations of the proliferative process). In this case study, we explore the complex interplay between these conditions in a 3-year-old girl who presented to the Emergency Department with facial asymmetry, heralding a cascade of diagnostic and therapeutic interventions.

A 3-year-old patient with phenotypic features of Down syndrome was brought to the Emergency Department due to facial asymmetry that appeared on admission in the morning and worsened in the subsequent hours. Due to the drooping of the right corner of the mouth and the inability to close the right eye, suspicion of peripheral facial nerve paralysis was raised. Additionally noted in the physical examination were bruises on the thighs and shins, small individual petechiae on the face, eyelid swelling, enlarged lymph nodes, and hepatomegaly. Diagnostic workup began with neurological consultation and imaging studies. CT imaging revealed inflammatory changes in the maxillary sinuses, mastoid processes, and tympanic cavities, with no significant pathologies described. Basic laboratory tests in the ED showed high leukocytosis, thrombocytopenia, and slightly elevated CRP. Further diagnostic procedures (bone marrow aspirate showing 89.7% blasts, cytogenetic, immunophenotypic, and molecular studies) led to the diagnosis of ALL pB "common" with partial CD33 co-expression. Due to facial nerve paralysis, involvement of the central nervous system by the proliferative process was confirmed (CNS status 3c). Treatment was initiated and continued based on the AIEOP-BFM ALL 2017 Protocol. Thanks to steroid therapy, the symptoms of facial nerve paralysis quickly resolved. The convergence of Down syndrome, leukemia, and facial nerve paralysis presents a unique and challenging clinical scenario. Therefore, it is crucial for doctors to be aware of the neurological symptoms of leukemia and consider such a diagnosis in the differential diagnosis of facial nerve paralysis. Diagnostic vigilance can prevent patients from suffering the consequences of delayed diagnosis.

Incidence of Hydrocephalus Following Myelomeningocele Surgical Repairment in Neonates – Risk Factors

Authors: Marta Wrzesień, Karolina Markusiewicz, Karolina Korowaj, Jeremi Jaworski

Co-authors: Sławomir Barszcz MD PhD, Marta Zębala MD PhD

Domain: Neurosurgery

Abstract:

Introduction: Myelomeningocele (MMC) is the most common form of neural tube defects (NTD) where a fragment of the spinal tissue protrudes through the skin. It leads to neuronal exposure, subsequent neurological impairments and abnormal central nervous system development often resulting in hydrocephalus (HCP), which may require ventriculoperitoneal shunt (VS) placement. The aim of the study was to evaluate the risk factors for HCP development following MMC repair, focusing on 3 key factors: location of the spinal cord segment affected by MMC, duration of the hospitalization and potential disparities between male and female patients.

Materials and Methods: We performed a retrospective analysis based on data of 46 patients collected from 2018 to 2023, including 28 female and 18 male neonates. Significance testing was performed using the Z-test, with all requisite criteria met.

Results: In our analysis the risk of HCP did not depend on sex of the patients ($p=0.3$), thus failing to reject the null hypothesis. There was no substantial evidence supporting a higher risk of HCP in lesions affecting the lumbosacral (L-S) region, although the p-value was borderline significant ($p=0.12$), suggesting a potential trend warranting further investigation. A longer hospitalization (>30 days) was found to be significantly correlated with HCP occurrence, as evidenced by the higher incidence of VS placements in patients with prolonged hospitalization ($p=0.03$), leading to the rejection of the null hypothesis.

Conclusion: According to the data collected, HCP incidence following MMC repair did not depend on the sex of the neonate. Although our analysis did not demonstrate a definitive higher risk of HCP in lesions affecting the L-S region, further research with larger sample sizes may elucidate potential associations. Our study identified a strong correlation suggesting a potential casual relationship where HCP may prolong hospitalization.

Analyzing the P300 component in Alzheimer's disease while correcting for hearing loss: a cross-sectional study

Authors: Guillaume Carp, Kobe Wouters

Co-authors: drs. Hanne Gommeren, dr. Joyce Bosmans, prof. dr. Vincent Van Rompaey

Domain: Otorhinolaryngology (ear, nose, and throat)

Abstract:

Introduction: Cortical Auditory Evoked Potentials (CAEPs) are neurocortical electrophysiological responses to auditory stimuli, which can be recorded by electroencephalography (EEG). CAEPs consist of different components, appearing as several peaks and troughs on the EEG-readout, with the P300 component having the highest sensitivity. CAEPs represent neurocortical processing capacities as well as overall cognitive functioning. Studies have shown that both Alzheimer's disease (AD) and hearing loss cause identical P300 alterations, decreasing amplitudes and prolonging latencies. However, the separate effect of these disorders on P300 has not yet been investigated. Therefore, our aim in this study is assess the individual influence of dementia on P300 while correcting for hearing loss.

Materials and methods: For this cross-sectional study, 54 subjects were included in both the test group (for AD patients) and control group (for healthy participants with normal cognition). Participants were group-matched based on sex, age and level of hearing loss, thereby correcting for the confounding influence of these variables. The following tests were performed: RBANS-H to quantify cognitive performance, audiometry to calculate hearing loss using the Fletcher Index high, and EEG to measure CAEPs. Raw EEG-data was processed and analysed using Fieldtrip Toolbox in MATLAB.

Results: No significant differences were seen in P300 amplitude or latency between our test group and control group. This finding is inconsistent with prior research.

Conclusion: Previous research hypothesized that P300 could be an interesting extra tool to aid with prognosticating or diagnosing AD in early stages. This study cannot confirm this hypothesis, since we did not find any significant P300 differences between AD and healthy patients. To the best of our knowledge, though, this is the first study to also match for hearing loss, which could possibly explain the inconsistent results.