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1. LUKA MACHITADZE

MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C) FOLLOWING COVID-19

Tbilisi State Medical University

Multisystem Inflammatory Syndrome in Children (MIS-C) is a rare but potentially life-threatening hyperinflammatory condition that develops after SARS-CoV-2 infection. Although its exact etiology remains unclear, MIS-C is associated with a dysregulated immune response, leading to a cytokine storm, endothelial cell damage, and multisystem organ involvement. Unfortunately, specific and updated data on cases of Multisystem Inflammatory Syndrome in Children (MIS-C) are not publicly available in Georgia and its neighboring countries - Armenia, Azerbaijan, Turkey, and Russia. However, global prevalence rates are as follows: its occurrence is estimated to be between 1:3,000 and 1:5,000 among children infected with SARS-CoV-2 (based on data from 2020-2022 (CDC)).

Clinically, MIS-C is characterized by prolonged fever, cardiovascular, gastrointestinal, neurological, and dermatological manifestations. Diagnosis relies on clinical evaluation, laboratory tests (CRP, D-dimer, IL-6, troponin), and imaging studies (echocardiography, chest radiography). The early stage of managing the foreign syndrome began in 2020, when nothing was known except that it resembled Kawasaki disease and septic shock. In the beginning, treatment involved aspirin, and later, steroids and intravenous immunoglobulin. The period of 2021 led to the standardization of treatment, with new findings on the syndrome prompting the use of anticoagulants and IL-6/1 inhibitors alongside traditional methods, which allowed us to transition to the modern stage (2022-2024). Randomized studies (NAPRTCS, RECOVERY) show that IVIG + corticosteroids is the most effective treatment. Anti-cytokine therapy is used in resistant cases, as well as thrombosis prevention and inotropic support as needed.

MIS-C cases are increasing globally, particularly in children aged 5-15 years. Despite ongoing research, many aspects remain uncertain, including the identification of diagnostic biomarkers (COVID-associated markers, cardio-specific, immune-dysregulatory, hematological-endothelial) and long-term outcomes. Special importance is given to syndrome-specific markers: the high levels of CXCL9 and IL-17A raise specific suspicion for MIS-C syndrome. Additionally, the presence of extremely high levels of NT-proBNP is noteworthy for differentiating between this syndrome and Kawasaki disease. Laboratory results are supported by a history of COVID infection, immunoglobulin positivity, and thrombocytopenia, which are also distinguishing features from Kawasaki disease. Future studies should focus on large-scale cohorts to improve diagnosis and develop personalized treatment strategies.

This syndrome continues to pose a significant challenge in pediatric patients, requiring continuous monitoring and scientific advancement. Preventing MIS-C is closely linked to COVID-19 prevention, with vaccination and adherence to public health recommendations playing a crucial role.

2. N. NAKUDASHVILI [1], L. RATIANI [1], M. TSABADZE [1], Z. NAKUDASHVILI [3], I. KEKELIDZE [2], M. KOBAKHIDZE [2], T. SANIKIDZE [4], SH. TSIKLAURI [5], M. LOMAIA [6]

FEATURES OF VASOMOTOR RHINITIS (VMR)

[1]TSMU First University Clinic, [2]TSMU G. Jvania Pediatric Clinic, [3]Georgian National University SEU, [4]TSMU, [5]Europian University, [6]Kavkasian University

Vasomotor (non-allergic) rhinitis (VMR) is a chronic inflammatory process of the nasal mucosa, which causes sneezing, nasal congestion, runny nose and postnasal drip. Unlike allergic rhinitis, its etiology is not fully established, although it is likely that various environmental factors directly or reflexively affect the nasal mucosa, leading to the development of symptoms.

The aim of our study was to investigate the characteristics of vasomotor rhinitis in patients who had not had COVID-19 infection and in patients who had COVID-19 infection. Data were collected from patients with vasomotor rhinitis (VMR), who were divided into two groups: Group I - data was collected from

patients diagnosed with vasomotor rhinitis (VMR), who had COVID-19 more than 6 months ago and Group II - without COVID-19.

Methods: All patients underwent the instrumental (anterior and posterior rhinoscopy, endoscopy, rhinomanometry) examination, the cytological (eosinophils, neutrophils, and leukocytes count), and biochemical investigations of nasal smear (the content of nitric oxide (NO)) and blood serum total antioxidant activity.

Results: No statistically significant differences were observed in the initial objective and subjective indicators between Groups I and II. However, cytological analysis of nasal smears revealed a higher presence of eosinophils, lymphocytes, and an increased number of neutrophils, along with a lower concentration of nitric oxide (NO) in patients from Group I compared to those in Group II. Additionally, the total antioxidant activity (TAA) in the blood serum of VMR patients was lower than in healthy controls, with a more pronounced reduction observed in Group I.

Conclusions: In patients with VMR who had a history of COVID-19 infection, oxidative stress intensity and nasal NO depletion were significantly elevated. These changes contributed to impaired protective mechanisms, persistent eosinophilic inflammation, and increased airway hyperresponsiveness.

3. ANA MAGHRADZE, IVANE CHKHAIDZE, NANI KAVLASHVILI

POST-COVID COMPLICATIONS AND LONG-COVID IN CHILDREN

Tbilisi State Medical University, International Faculty of Medicine and Stomatology, Pediatric Department, Tbilisi, Georgia

Many children suffer from lingering symptoms after COVID-19, known as long COVID syndrome (LCS), otherwise called Post COVID-19 Condition (PCC). Despite extensive research, the prevalence of symptoms, its impact on quality of life, and underlying mechanisms still need to be fully understood. As neutrophilic granulocytes play an essential role in COVID-19, and their prolonged disruption was found to cause immunological diseases, we hypothesized their ongoing disturbed functionality in LCS. Long COVID is a condition characterized by long-term, multi-system, often severe health problems persisting or appearing after the typical recovery period of COVID-19. Although studies into long COVID are under way, as of April 2025 there is no consensus on the definition of the term. LCS in children was defined by the WHO as PASC occurring within 3 months of acute coronavirus disease 2019 (COVID-19), lasting at least 2 months, and limiting daily activities. Pediatric PASC mostly manifest after mild courses of COVID-19 and in the majority of cases remit after few months. However, symptoms can last for more than 1 year and may result in significant disability. What is Known: • Post-acute sequelae of coronavirus 2019 (COVID-19) (PASC) - also termed Long COVID - in children and adolescents can lead to activity limitation and reduced quality of life. • PASC belongs to a large group of similar post-acute infection syndromes (PAIS). In research studies, more than 200 symptoms have been linked to long COVID. Symptoms may stay the same over time, get worse, or go away and come back.

Common symptoms of long COVID include: Extreme tiredness, especially after activity; Problems with memory, often called brain fog; A feeling of being lightheaded or dizzy; Problems with taste or smell. Other symptoms of long COVID include: Sleep problems; Shortness of breath; Cough; Headache; Fast or irregular heartbeat, chest pain; Digestion problems, such as loose stools, constipation or bloating. Long COVID encompasses a heterogeneous collection of symptoms and conditions after SARS-CoV-2. These symptoms may reflect persistent symptoms from acute COVID-19 infection, such as cough, shortness of breath, headaches, fatigue, chronic pain, and loss of taste and smell. They may further reflect exacerbation of underlying conditions, such as persistent cough in children with asthma, diabetic ketoacidosis in children with diabetes, exacerbation of mental health and neurodevelopmental conditions.

Prevalence: A study in Malaysia reported that 21.1% or approximately 1 in 5 COVID-19 survivors reported persistent ill health>3 months post-COVID infection. A study in India reported that 9.4% of people had long-term symptoms after COVID-19. Two studies in Saudi Arabia reported approximately 49% and 51.2% overall Long-COVID prevalence, respectively. Two studies in Turkey reported approximately 27.1% and 47.5% prevalence, respectively. A study in Japan reported 56.14% prevalence, while a study in

Mexico reported high prevalence of 68% at approximately 90 days post-COVID infection. In Canada, 28.5% prevalence of persistent post-COVID-19 symptoms 90 days after infection was reported.
Treatment: In general, current clinical practice adopted a symptom-based approach in managing long COVID. Although there are currently no broadly effective treatments for long COVID, treatments for certain components have been effective for subsets of populations.

4. NINO KARANADZE, GIGI GORGADZE, TINATIN KILASONIA, NINO JANKARASHVILI

BACTERIOPHAGE THERAPY FOR ANTIBIOTIC-ALLERGIC AND ANTIBIOTIC-RESISTANT OCULAR INFECTIONS: A RETROSPECTIVE STUDY

Tbilisi State Medical University; LIONS Eye Diabetic Clinic; Georgia

Introduction. The increasing number of patients who are allergic to antibiotics and the global rise of antibiotic resistance have significantly challenged the treatment of infections, particularly in ophthalmology. Antibiotic allergic reactions, typically mediated by immunoglobulin E (IgE), which triggers an inflammatory response, often cause adverse effects ranging from mild rashes to life-threatening anaphylaxis, which can complicate the treatment of infections. Additionally, antibiotic resistance, caused by several reasons including the modification of antibiotic targets, the production of enzymes that degrade antibiotics (such as β-lactamases), alterations in cell membrane permeability, and the active expulsion of drugs via efflux pumps, has emerged as a critical global health concern.
In ophthalmology, the impact of these issues is profound. Patients who experience adverse reactions to antibiotics or whose infections are caused by resistant bacteria face limited treatment options. In response to this growing challenge, from the year 2000, the Department of Eye Diseases of Tbilisi State Medical University successes in using Pyo-Bacteriophage to treat various eye diseases such as chronic and acute blepharitis, infectious-allergic conjunctivitis and keratitis and chronic and acute dacryocystitis in antibiotic-allergic and antibiotic-resistant patients or in the patients who have negative antibiotic treatment results in the past. Advantages of the Bacteriophage therapy compared to antibiotic therapy, such as specificity, adaptability, lower risk of side effects or allergic reactions, naturally occurrence potential and biodegradability, and reduced risk of antibiotic resistance should be taken into account.
Purpose. The study aimed to collect and analyze the data of the cases where Pyo-Bacteriophage was implemented for treatment and the treatment results.
Methods. Pyo-bacteriophage leads to specific lysis of Staphylococcus, Streptococcus, E.coli, Pseudomonas Aeruginosa and Proteus. Pyo-bacteriophage, produced in The George Eliava Institute of Bacteriophage, Microbiology and Virology was prescribed for instillation, application and nasolacrimal duct irrigation. The data was collected from the patients' medical histories and follow-up results.
Results. A total of 79 patients, who underwent the mentioned treatment were found, of which 30 had chronic dacriocystitis, 27-Infectious-allergic conjunctivitis and 22-Blepharitis. In most of the cases (61/79) the positive outcome with relief of patient complaints and full recovery was achieved.
Conclusion. Considering the diversity of patients and the complications that could occur if antibiotic therapy, which was ineffective, did not have an alternative in the form of bacteriophage, the high effectiveness and clinical significance of pyo-bacteriophage therapy as a treatment method is confirmed. Also, its other advantages mentioned above should be taken into account.

5. R. JAVAKHADZE, N. KHATIASHVILI, KH. CHIGOGIDZE, KH. SHUBLADZE, O. GHVABERIDZE, T. TODUA

THE ESTIMATION OF INFLUENCE OF COVID-19 ON THE MEDICAL WORKERS HEALTH, INCLUDING WOMEN

N. Makhviladze Scientific Research Institute of Occupational Medicine and Ecology, Tbilisi, Georgia

The new coronavirus infection (COVID-19) caused by the SARS-COV-2 virus first appeared in China at the end of 2019, spread very quickly throughout the world during the first three months and took on the

character of a pandemic. The spread of the corona virus disease during the pandemic claimed millions of lives, including medical personnel.

The works published by WHO, ILO, EU discuss the harmful working conditions of employees in the healthcare system, which became extreme during infections and the COVID-19 pandemic. Opinions on recognizing COVID-19 as an occupational disease or accident are summarized. There is data in the literature that discusses the experience of several EU countries. As a result of the conducted studies, the main risk factors, health disorders and preventive measures were identified. Expertise issues on recognizing the viral infection COVID-19 as an occupational disease among employees in the healthcare system were discussed. The long-term consequences that develop after the acute period of COVID-19 disease are noteworthy, which are expressed in various diseases, such as: post-infectious asthenia with vegetative dysfunction, interstitial changes in the lungs (granulation or fibrosis), pulmonary hypertension, thromboembolic pulmonary hypertension, emotional burnout syndrome.

The work is interesting, which provides an assessment of the impact of COVID-19 on women health working in the medical sphere in Georgia. The pandemic has significantly affected their working conditions, also their physical and psychological risks have increased. 70% of healthcare workers worldwide are women, and they have been on the front lines of the fight against COVID-19. The number of women employed in the healthcare sector in Georgia exceeds the number of employed men, and is 62%.

The aim of the study was to identify the necessary changes for women in employment during the COVID-19 pandemic by fulfilling specific research objectives. The study revealed that COVID-19 has had a significant impact on women working in the health sector, especially on their paid and unpaid work, economic situation and social responsibilities. COVID-19 is affecting men and women differently. According to UN Women's rapid gender assessment of the COVID-19 situation, the differential impacts of the pandemic on women and men include livelihoods, vulnerability and the distribution of unpaid domestic work. Following the research, relevant recommendations and conclusions were issued.

6. TEKLA KUBLASHVILI, TAMARI TABATADZE, NINO KHELADZE

THE INFLUENCE OF ENVIRONMENTAL FACTORS ON PRECOCIOUS PUBERTY: A CASE REPORT

M.Iashvili Children's Central Hospital, TSMU

Precocious puberty is defined as the appearance of secondary sexual characteristics before the age of 8 in girls and before the age of 9 in boys. In recent years, research has increasingly identified a link between precocious puberty and environmental factors, particularly chemicals (Endocrine Disrupting Chemicals – EDCs) that negatively affect the normal functioning of the endocrine system.

In this report, we discuss the case of a 6-year-old girl diagnosed with idiopathic precocious puberty. The patient's medical history, including frequent and abundant consumption of food stored in plastic containers and processed foods (such as fast food, sweets, and foods rich in trans fats), clearly indicated significant exposure to EDCs. The patient's complaints included breast enlargement, accelerated growth rate, and mood swings over the past 6 months. The patient's mother experienced menarche at the age of 13, and her daughter had a similar development at the age of 12.5. To clarify the diagnosis, the patient's height (above the 97th percentile), weight (appropriate for age), and degree of sexual maturation were assessed. Using the Tanner scale, breast development was at stage 3, pubic hair at stage 2, and axillary hair at stage 1. Bone age, determined by X-ray examination of the left wrist and hand, was found to be 2 years ahead of the chronological age. Laboratory studies revealed elevated levels of luteinizing hormone (LH), slightly elevated follicle-stimulating hormone (FSH), and high estradiol (E2 - 65 pg/ml). To exclude hypothyroidism, thyroid function was assessed, with normal levels of thyrotropin (TSH) and free thyroxine (FT4). To rule out congenital adrenal hyperplasia and/or adrenal tumors, adrenal hormones were evaluated. The results of 17-OHP (17hydroxyprogesterone) and DHEA-S (dehydroepiandrosteronesulfate) were within the normal range for the patient's age. Prolactin levels were also normal. To exclude the possibility of a germ cell tumor, human chorionic gonadotropin (hCG) and alpha-fetoprotein (AFP) levels were evaluated, and both were within the normal range. Instrumental

studies included pelvic ultrasound (which showed that the size of the uterus and ovaries was increased, consistent with pubertal development) and magnetic resonance imaging (MRI) of the brain, which ruled out hypothalamic-pituitary tumors. Based on the studies performed, the patient was diagnosed with idiopathic central precocious puberty (ICPP). She was treated with Leuprorelin Acetate 11.25 mg injections (GnRH agonist therapy) once every 3 months. Growth rate, bone age, and hormonal balance were regularly monitored. The parents were advised on proper nutrition for the child, which included removing processed meat products from the diet, reducing the intake of high-fat dairy products, sugar, and refined carbohydrates.

Thus, modern research clearly indicates the significant influence of environmental factors, especially EDCs, on precocious puberty. The case discussed here further confirms that not only genetic factors but also the environment in which we live play a major role in the onset of precocious puberty. It is important to inform parents about the potential influence of environmental factors (such as healthy nutrition and reducing exposure to EDCs). These results underscore the need for regulatory policies to limit EDC exposure and further research to elucidate the causal mechanisms.

7. BEKA JALABADZE

HOST-PATHOGEN INTERACTIONS IN MYCOBACTERIUM TUBERCULOSIS: BACTERIAL EVASION AND IMMUNE DEFENSE

Quality School International Tbilisi (QSIT), Tbilisi, Georgia

Mycobacterium tuberculosis (MTB), a large, no motile, rod-shaped bacterium is a causative agent of disease tuberculosis. It has evolved to persistently evade eradication by the immune system, making it one of the leading causes of infectious mortality worldwide. Notably, MTB has developed the ability to replicate within phagocytic cells, mainly macrophages - cells that are typically responsible for eliminating pathogens.

The complex host-pathogen interactions that enable MTB to survive within macrophages and contribute to the establishment of latency are critical for its long-term persistence. In recent years, significant scientific findings have been made in understanding of how MTB manipulates host immune responses. Research has uncovered how the pathogen alters the maturation of phagosomes, interferes with autophagy, inhibits macrophage activation, and intervenes with cytokine responses to suppress inflammation and promote the formation of a latent infection. MTB relies on several mechanisms to evade immune elimination and persist within the host. It has a lipid-rich, atypical cell wall, the waxy envelope, serves as a layer of protection against degradative enzymes and low pH, making it resistant to processes such as autophagy and phagocytosis. In addition, the bacterium produces effector proteins, such as ESAT-6, CFP-10, SapM, and PknG, which interfere with host cell functions, preventing phagolysosomal fusion. Furthermore, MTB reshapes the intracellular environment, forming a stable niche in which it replicates. This also contributes to the formation of granulomas.

The interactions between MTB and the host immune system are explored to highlight key immune evasion mechanisms, to improve understanding of MTB pathogenesis.

8. BELA KURASHVILI, MARINA TSIMAKURIDZE, MAIA TSIMAKURIDZE, NINO KHACHAPURIDZE, DALI ZURASHVILI, ETERI MAISURADZE

THE ROLE OF NUTRITION IN THE TREATMENT AND PREVENTION OF CORONAVIRUS INFECTION

Department of Nutrition, Aging Medicine, Environmental and Occupational Health, TSMU, Tbilisi, Georgia

During the spread of coronavirus infection, the nature of nutrition and dietary regimens are changing. Especially during the pandemic, when fresh products are less available in settings of isolation and quarantine. A balanced diet is of particular importance to strengthen the immune system. To strengthen immunity, a person must receive all the necessary nutrients: proteins, fats, carbohydrates, vitamins (A,

D, E, B6, B12), and mineral elements (Zn, Se). The use of low-calorie, detoxifying dietary products rich in these substances contributes to the favorable course and prognosis of infectious diseases.
In the composition of food products, it is important to reduce the use of sugar and sugar-containing products, since carbohydrates increase the permeability of the blood vessel walls, which, in turn, aggravates the course of the disease. To increase the body's immunity, zinc is necessary, which is part of more than 300 enzymes. Accordingly, it is important to include cereals, chicken, and seafood, which are characterized by a high zinc content, in the diet. It is important to use unrefined oil-containing vitamins A and D (especially flaxseed oil, which is rich in polyunsaturated fatty acids).
The use of vegetable and animal products promotes detoxification and activation of antibody production. For perfect nutrition, it is necessary to include fats and surfactants in the diet (consisting of 90% fat, 10% protein and carbohydrates), which helps to absorb oxygen and prevent hypoxia.
In the case of any infection, and especially coronavirus infections, it is important to have a balanced and rational diet and maintain an optimal nutrition regimen.

9. TINATIN JOJUA, KETEVAN PETRIASHVILI, PEPO JANGAVADZE

THE SWEET DANGER: HOW SUGAR DRIVES INFLAMMATORY DISEASES

Tbilisi State Medical University

Over the past 30 years, the excessive consumption of dietary sugars, including glucose, fructose, and high-fructose corn syrup (HFCS), has significantly increased the prevalence of obesity, type 2 diabetes, cardiovascular disease, and metabolic syndrome. In addition, excessive sugar intake causes systemic inflammation, which is a significant factor in developing chronic inflammatory diseases.
This study aimed to evaluate the impact of dietary sugars on the development of inflammatory processes and their role in the development of chronic inflammatory conditions, such as rheumatoid arthritis (RA), multiple sclerosis (MS), psoriasis, and inflammatory bowel disease (IBD).
Methods: In an experimental-observational study, scientists used mice on a high-sugar diet. These mice showed increased inflammatory markers, changes in the microbiome, and increased inflammation by T cells. The study also included 100 humans. Their dietary profile and levels of inflammatory markers, including IL-6, TNF-α, and CRP, were analyzed. Data were collected through blood tests and monitoring of patients' dietary habits.
The results of the study show that excessive sugar consumption causes a significant increase in the levels of inflammatory markers in adipose and other tissues, a decrease in the number of T and B lymphocytes, enhances the differentiation of Th17 cells through TGF-β and IL-6, activates macrophages, and affects the intestinal microbiome. All of these increase the risk of chronic inflammatory diseases.
The study also revealed that natural anti-inflammatory agents, such as curcumin, epicatechin, and astaxanthin, suppress sugar-induced inflammation by modulating NF-κB, MAPK, and other inflammatory cascades.
In conclusion, the study highlights the important role of excessive sugar intake in the development of inflammatory diseases and recommends the use of dietary interventions and natural anti-inflammatory agents. These data require further studies to substantiate the effectiveness of dietary interventions further.

10. IRAKLI ZAKROSHVILI

POST-COVID SMALL FIBER NEUROPATHY, IMPLICATIONS OF INNATE IMMUNITY AND CHALLENGES ON IVIG THERAPY

Tbilisi State Medical University

Small fiber neuropathy (SFN) involves damage to small unmyelinated C fibers and thinly myelinated Aδ fibers, which are responsible for pain, temperature, and autonomic functions.
The immunopathophysiology suggests that in many cases, SFN is immune-mediated. Autoantibodies (like

anti-FGFR3 or anti-TS-HDS) and immune cells can attack small nerve fibers directly or cause inflammation in the dorsal root ganglia.
It's associated with autoimmune diseases (e.g., lupus, Sjögren's, sarcoidosis), and sometimes post-infectious or vaccine-triggered. Immune dysregulation leads to nerve fiber degeneration and dysfunction. Small fiber neuropathy (SFN) is commonly observed in patients after long COVID, presenting with painful paresthesias, dysautonomia, and postural orthostatic tachycardia syndrome. The use of intravenous immunoglobulin (IVIg) therapy in post-COVID SFN cases has been considered, despite the lack of specific autoimmunity markers. A retrospective study involving nine post-COVID SFN patients with whole wide spectrum of symptoms reported symptom resolution or improvement following IVIg treatment, even up to 17 months after acute COVID-19 infection. These findings are based on retrospective data, therefore there is a need to highlight which step of SFN immunopathology is IVIg targeting and how efficacy is assessed. New evidence suggests that in SFN associated with type 1 diabetes, innate immune cells such as activated macrophages, Langerhans cells, dendritic cells, and natural killer cells contribute to clinical symptoms by releasing proinflammatory cytokines and peptidergic proteins that sensitize nociceptors on intradermal nerve fibers. Innate immunity is likely the main culprit not only in post-COVID SFN, but also in other „apparently autoimmune" SFN. Understanding the immunopathogenesis of SFN is crucial for both neurologists who have no data to justify using IVIg and for patients who are worried, that a possibly effective therapy is denied.

11. KONSTANTINE TSAGAREISHVILI, ALEXANDER TSAGAREISHVILI

SCABIES: A NEGLECTED DISEASE

Akaki Tsereteli State University, Kutaisi, Georgia

BACKGROUND: Although scabies in Georgia is under epidemiological control (as a reportable disease), it remains a growing challenge for public health. This is attributed to several factors, including the economic conditions of specific population groups, limited access to treatment, quality of medications, non-compliance with treatment regimens, and a lack of awareness about the dermatosis among primary care physicians.
MATERIALS AND METHODS: The aim of this study was to assess the total number of registered scabies cases across Georgia, including the city of Kutaisi and our clinic, from 2020 to 2023. In addition, the outpatient records of 119 patients from our clinic were analyzed for the period 2020-2024 using a specially designed questionnaire to investigate the epidemiological characteristics of scabies. Diagnosis was based on clinical examination, patient history data, microscopy of skin scrapings, and dermoscopic examination.
RESULTS: According to analysis of the annual data of scabies cases from the LEPL National Center for Disease Control and Public Health, shows that new scabies cases increased by 1.8 times in Georgia, 1.5 times in Kutaisi, and 1.7 times in our clinic during the period 2020–2023. Outpatient records of 119 patients (53% female and 47% male) from our clinic were reviewed between 2020 and 2024 to study the epidemiological features of scabies. The majority of the patients (43.7%, or 52 patients) were in the 0–14 age group, with 51.9% (27 patients) out of them being under school age (0–6 years old).
Following is the number of patients in other age groups: 15-19 years old 7.56% (9 Patients), 20-24 years old 7.56% (9 patients), 25-29 years old 5.04% (6 patients), 30-39 years old 10.92% (13 patients), 40-49 years old 15.14% (18 patients), 50> years old 10.08% (12 patients). The main part of the patients had classic clinical manifestation of scabies. Mite burrows were identified in the 0-14 years old patients, 32.69% (17 patients), often excoriated, and secondarily infected.
Only one patient had clinical manifestation of crusted scabies, which was universal process on the skin with hyperemia, the hyperkeratotic areas, crusts, deep fissures, including face, eyebrows, pinna, neck and limbs.
According to data from our clinic, the main focus of scabies transmission to healthy individuals were families, kindergartens, schools, and organized activity groups such as dance and sports teams. Assessment showed that 1/3 of family members were infected. In 40% of these cases, the source of infection within

the household was children aged 0–14 years, in 64.70% of cases (77 patients), the duration of disease ranged from 3 weeks to 3 months.
Among sexually active men aged 20-29 years (8 patients), the majority (88.89%) acquired scabies from sexual partners. The assessments revealed the high stigma related to scabies, as the patients were ashamed the diagnosis considering the disease associated to the low hygiene standards, 90% of the interviewed adults.
The main reasons for late scabies cases (lasting one month or more) included: incorrect diagnosis, even in case of correct diagnosis, failure of treatment of all close contacts, particularly in larger families (with four or more members), kindergarten, school, organized activity groups such as dance and sports teams, it also included improper usage of medications, substandard drug quality, the inability to conduct repeated treatment when necessary due to financial constraints.
CONCLUSIONS: As far as the scabies stays the common disease for the resource limited countries, it is important to have deeper and wider epidemiological study in Georgia and conduct the relevant measures to reduce the cases in the Country.

12. LIA LOMIDZE [1,3], EKA EKALADZE [2,3], NANA KVARATSKHELIA [1], VENERA DAVITULIANI [1,2], IRINE KEKELIDZE [2]

POSTNASAL DRIP AS CAUSE OF CHRONIC COUGH

[1]ENT National Center, [2]TSMU, [3]KWIU

Background: Postnasal Drip Syndrome (PNDS) is a leading cause of chronic cough, often associated with rhinosinusitis, cough variant asthma, and gastroesophageal reflux disease. PNDS is a clinical diagnosis of exclusion, lacking definitive diagnostic tests or objective findings.
Objective: This study aimed to investigate the prevalence of chronic cough associated with PNDS following the COVID-19 pandemic and evaluate the effectiveness of conventional treatment methods.
Methods: A cohort of patients presenting with chronic cough was assessed for PNDS. Conventional treatment efficacy was analyzed, and cases unresponsive to standard therapy were further evaluated through complex treatment approaches.
Results: Our findings indicate a significant increase in chronic cough cases post-COVID-19.
Conclusion: The prevalence of PNDS-related chronic cough has risen post-pandemic. Standard treatment approaches may be insufficient in certain cases, necessitating a more comprehensive treatment strategy. Further research is needed to optimize management protocols for PNDS- induced chronic cough.

13. IRMA MANJAVIDZE, DALI CHITAISHVILI, PIRDARA NOZADZE, LIA OTIASHVILI, NANA JIKIDZE

EVALUATING THE EFFECTIVENESS OF SIMULATION-BASED LEARNING FOR RESPIRATORY PROCEDURES IN UNDERGRADUATE MEDICAL EDUCATION

Tbilisi State Medical University, Tbilisi, Georgia

Background. Simulation-based learning (SBL) is gaining popularity in medical education. However, its use in teaching respiratory procedures, such as managing asthma, COPD, and pulmonary fibrosis, has not been extensively explored. These procedures are crucial for diagnosing, monitoring, and treating respiratory diseases, foundational to effective clinical decision-making and patient care. This study aims to assess how second-year medical students perceive the effectiveness of SBL in learning respiratory procedures.
Methods. The respiratory procedures topic was incorporated into the "Clinical Skills" syllabus for second-year medical students. This topic covered essential skills that must be acquired by graduation, as defined by the National Sectoral Benchmarks in Medical Education. The skills included in the syllabus were peak flowmetry, spirometry, oxygen therapy, oropharyngeal, nasopharyngeal, orotracheal, and nasotracheal suctioning, inhalation therapy, and postural drainage. Upon completing the course, students were asked

to complete an anonymous survey to assess their satisfaction with the new topic, the effectiveness of simulation-based learning (SBL), and the impact on their clinical confidence.
All second-year students enrolled in the fall semester of the 2024-2025 academic year were eligible (n=228). A total of 124 students returned the survey, yielding a 54% response rate. The survey included 5-point Likert-scale questions assessing overall satisfaction, the effectiveness of simulation, the usefulness of SBL in understanding respiratory procedures, and students' confidence in performing these procedures. Binary questions evaluated students' perceived preparedness to handle respiratory conditions in clinical settings.
Results. A total of 124 students responded to the survey. Regarding overall satisfaction, 74.2% rated it as "satisfied" (4), and 16.1% rated it as "very satisfied" (5). The effectiveness of SBL in teaching respiratory procedures was rated positively, with 71.8% rating it as "effective" (4) and 12.1% as "very effective" (5). The majority (76.6%) felt that SBL significantly improved their understanding of respiratory procedures. Confidence in performing procedures increased post-module, with 71.8% feeling "confident" (4) after completing the course. Regarding clinical preparedness, 76.6% felt more prepared to handle respiratory conditions. Some students raised concerns about insufficient time for skill labs and limited access to equipment.
Conclusion. Simulation-based learning in respiratory procedures was well-received, with students reporting improved understanding, confidence, and preparedness. Addressing resource limitations will further enhance the effectiveness of SBL in medical education.

14. G. KIRTADZE [1], G. MKHEIDZE [2], N. NAKUDASHVILI [1,2], M. TSABADZE [1,2], I. KEKELIDZE [3], Z. NAKUDASHVILI [4], M. KEVANISHVILI [1]

DIAGNOSIS, MANAGEMENT AND SURGICAL APPROACHES OF NASAL SEPTAL PERFORATION

[1]National Center of Otorhinolaryngology; [2]TSMU First University Clinic; [3]TSMU G. Jvania Pediatric Clinic; [4]Georgian National University SEU

Nasal septal perforation (NSP) is a defect in the nasal septum that may result from trauma, previous surgery, infection, inflammatory diseases, or substance abuse. Patients with NSP often present with symptoms such as nasal crusting, whistling, epistaxis, nasal obstruction, and varying degrees of discomfort. Diagnosis is primarily clinical, with anterior rhinoscopy and nasal endoscopy playing crucial roles in evaluating the size, location, and impact of the perforation. Imaging may be required in cases of suspected underlying pathology.
Management strategies depend on symptom severity and perforation size. Asymptomatic or small perforations can often be managed conservatively with nasal hydration, saline irrigation, and emollients. Larger or symptomatic perforations may necessitate surgical repair, which remains challenging due to high failure rates and difficulty in achieving stable tissue coverage. Various surgical techniques have been developed, including local mucosal flap advancement, interpositional grafts (such as acellular dermis, cartilage, or fascia), and free tissue transfer. The choice of technique is influenced by perforation size, mucosal mobility, and surgeon expertise. Recent advancements, including the use of biomaterials, tissue engineering, and endoscopic approaches, have shown promise in improving surgical outcomes.
Despite surgical innovations, achieving complete closure with long-term success remains difficult, with recurrence rates varying. A meticulous surgical approach, adequate tissue mobilization, and postoperative care are crucial for optimizing outcomes. Preventative measures, such as avoiding nasal trauma and treating underlying conditions, are essential in reducing NSP occurrence. Future research into regenerative medicine and novel biomaterials may further improve the success rates of NSP repair. This review discusses the etiology, diagnosis, and current surgical techniques available for managing nasal septal perforations, highlighting traditional, emerging and our own approaches to optimize patient outcomes.

15. TAMAR BURJANADZE, MAIA MATOSHVILI, NINO ADAMIA, MANANA KOBAKHIDZE, MARIAM TUTASHVILI

AQUAGENIC URTICARIA: PATHOPHYSIOLOGY, DIAGNOSIS AND MANAGEMENT

TSMU, M. Iashvili Children's Central Hospital

Aquagenic Urticaria (AU) is a rare dermatological disorder characterized by the development of pruritic wheals and erythema upon exposure to water, irrespective of its temperature or source. While the exact pathophysiology remains uncertain, several hypotheses suggest a role for water-soluble antigens triggering mast cell degranulation or abnormal sweat gland response. The condition primarily affects young individuals and can significantly impact quality of life. Diagnosis is confirmed through water challenge test, and treatment options include antihistamines, barrier protection, and in severe cases, omalizumab or phototherapy. This thesis aims to provide a comprehensive review of AU, including its epidemiology, pathophysiology, clinical presentation, diagnostic criteria, and current management strategies, while also highlighting areas for future research.

Introduction. Aquagenic urticaria is a unique condition presenting challenges in dermatology and allergy medicine. Its impact on daily life is substantial, as water exposure triggers distressing symptoms. Despite its rarity, increasing awareness in necessary to improve diagnosis and treatment.

Pathophysiology and Clinical Presentation. AU manifests as pruritic wheals and erythema within minutes of water exposure, resolving shortly after drying – in the period of 30 minutes and 2 hours. While AU can happen in adults and children of any gender, it is more common in females during or after puberty. Proposed mechanisms include histamine release from mast cells and hypersensitivity to water-soluble antigens. Differential diagnoses include cholinergic urticaria and aquagenic pruritus.

Diagnosis and Management. Diagnosis relies on clinical history and water challenge tests. This test involves applying a cloth dampened with room temperature water to the skin for about 20 minutes. If the patient develops hives, the diagnosis is confirmed. Standard treatments involve non-sedating antihistamines, while barrier methods such as topical oils can reduce symptoms. Severe cases may require omalizumab or phototherapy. Psychological support is also essential for affected individuals.

Conclusion. Though rare, AU significantly affects quality of life. Advancing research into its pathophysiology and treatment options is crucial for improving patient care and long-term management.

16. MAIA MAGLAPERIDZE

OPTIMIZING THE DIAGNOSIS AND TREATMENT OF PSORIASIS ASSOCIATED WITH STREPTOCOCCAL INFECTION

Russian Peoples' Friendship University

Introduction: Psoriasis (Ps) is one of the most common chronic dermatoses, affecting 3 to 7% of the global population, according to various authors. Being a genetically determined immunopathological disease, psoriasis is characterized by hyperproliferation of epidermal cells, impaired differentiation of keratinocytes, and immune system dysfunction with the formation of immune-dependent cytokines and mediators.

The Aim of the Study: Investigation of new links in the etiopathogenesis of psoriasis associated with streptococcal infection by assessing the expanded spectrum of microbiota in key biotopes (skin, throat, intestines) and development of a complex treatment plan considering the identified factors.

Methods of the Study. All patients in the main group and the control group underwent a comprehensive clinical and laboratory examination, including: Collection of family history/anamnesis and disease history; Physical examination: To determine the severity of the pathological lesion, a standardized method for assessing PASI (Psoriasis Area and Severity Index) was used. Clinical and biochemical blood tests; CMSM (Chromato-Mass Spectrometry of Microbial Markers) of blood, skin, and throat swabs. The method is highly sensitive and rapid (requiring only 3 hours for a complete analysis cycle). Blood analysis—ASLO (anti-streptolysin O) and ANCA (antineutrophil cytoplasmic antibodies).

Examinations - 1 Stage Results: Analysis of the laboratory results revealed the following: 28% of patients (n=7) showed a slight increase in ASLO levels (more than 200); 28.5% (n=8) revealed Strep. viridans or Strep. aureus cultured in 10, 4-5 degrees; and ANA level was negative in all patients (100% of cases). Thus, the clinical significance of such indicators as ASLO, ANA, and levels of Strep. viridans or Strep. aureus at psoriasis (Ps) is extremely low. This prompted us to use more sensitive research methods to investigate the role of *Strep. pyogenes* in the pathogenesis of Ps and its identification.

Conclusion. Using the chromatographic mass spectrometry method of microbial markers (CMSM), a disruption of micro biocenosis was revealed in patients with Ps, characterized by an increase in the concentration of 6 opportunistic pathogenic microorganisms ($p<0.05$): coccal microflora (Streptococcus spp., Staphylococcus aureus); microorganisms of the Clostridia group (intestinal flora: Clostridium perfringens, Clostridium propionicum). Microorganisms causing purulent skin lesions (Propionibacterium acnes); fungi of the Candida genus; increase in endotoxin levels ($p<0.05$); and a normal concentration of lactobacilli.

17. NINO TORADZE, TINATINI MIGINEISHVILI, ANA PETRIASHVILI, NINO ADAMIA, GVANTSA JAJANIDZE

DERMATOMYOSITIS IN CHILDREN: CASE REPORT

Tbilisi State Medical University, M. Iashvili Children's Central Hospital

General overview. Juvenile dermatomyositis is a rare inflammatory, autoimmune disease, characterized by progressive weakness of the proximal skeletal muscles, which can lead to complete immobility. In addition to the weakness of the proximal muscles, the disease is characterized by periorbital swelling, purplish-lilac erythema, and a heliotrope rash on the cheeks. Symmetrical Gottron's papules appear on the extensor surfaces of joints, especially on the proximal interphalangeal joints. The differential diagnosis of dermatomyositis should include post-viral myalgia, polymyositis, rheumatoid polymyalgia, systemic lupus erythematosus, and systemic scleroderma. In order to diagnose this condition, we use the Childhood Myositis Assessment Scale (CMAS). The primary treatment includes glucocorticoids, with prednisone being the most commonly used. Our case highlights the importance of thorough patient examination and appropriate management.

Case Discussion. A 3-year-old girl was admitted to the M. Iashvili Central Pediatric Hospital, who, according to her parents, had experienced changes in her walking pattern, weakness, and increased restriction of movement for one month. Additionally, periorbital swelling and difficulty swallowing were noted. Prior to hospitalization, the parents consulted a neurologist, who excluded neurological pathology. For further investigation, they sought care in the emergency department of M. Iashvili's Central Pediatric Hospital. Upon admission, the patient's general condition was concerning. The child had restricted movement, periorbital purplish-lilac erythema, a heliotrope rash on the face, Gottron's papules on the interphalangeal joints of the hands, a change in voice tone, and difficulty swallowing. The mucosa of the oral cavity was clean, with moderate hyperemia of the posterior pharyngeal wall. Peripheral pulse was of average fullness and tension, capillary refill time was > 2 seconds, and skin turgor was decreased. On auscultation, breath sounds were equally distributed on both sides. The abdomen was soft, non-tender on palpation, and the patient had normal urination and defecation. The patient was evaluated using the Childhood Myositis Assessment Scale (CMAS), and a diagnosis of juvenile dermatomyositis was made. The patient underwent electromyography. Laboratory tests showed elevated creatine kinase levels (2000 U/L), an increase in antinuclear antibodies (1:1280), and liver function tests suggesting juvenile dermatomyositis. The patient was treated with pulse methylprednisolone therapy. Despite positive results in paraclinical tests, significant clinical improvement was not observed during the first week. On the 9th day of hospitalization, the patient's condition began to improve, and paraclinical tests showed positive dynamics. Due to this, the patient was discharged on the 21st day after admission.

Discussion: Our case demonstrates that dermatomyositis in children is a rare and remains a significant challenge for physicians. It requires careful anamnesis, rapid differential diagnosis, appropriate management, and active monitoring during treatment.

18. LASHA TCHELIDZE, NINO ADAMIA, IA PANTSULAIA, PIRDARA NOZADZE

EOSINOPHILIC ESOPHAGITIS: ALLERGIC OR GASTROINTESTINAL DISEASE?

Tbilisi State Medical University, Department of Medical Biology and Parasitology; M. Iashvili Central Children's Hospital, Department of Pediatrics

Eosinophilic esophagitis is a chronic inflammatory Th2 cell-type immune-mediated disease characterized by the presence of more than 15 eosinophils in esophageal biopsy material using a high-power field (HPF). It is recognized as the most common cause of dysphagia in the population. Its prevalence is on average one patient per 2500 population, although the disease is characterized by a high prevalence in Caucasians and/or males. This is associated with the presence of single nucleotide polymorphisms (SNPs) in pseudoautosomal regions of sex chromosomes. The exact statistical data on eosinophilic esophagitis in many countries of the world, including Georgia, are unknown. This is associated with incorrect or delayed diagnosis. Modern diagnostic principles include the assessment of the disease by a gastroenterologist based on endoscopic findings using the EREFS classification (total score - 8), which includes five main signs: the presence of edema, rings, exudate, fissures and strictures in the esophageal tube. Eosinophilic esophagitis requires appropriate differential diagnosis with diseases such as gastroesophageal reflux disease (GERD), celiac disease, various intestinal malformations, food allergies, and diseases with other functional disorders of the esophagus. The code of the etiopathogenesis of eosinophilic esophagitis is supplemented by the existence of eosinophilic gastrointestinal diseases (Non-EoE-EGIDs), between which there are significant differences in immunopathophysiology, clinical and paraclinical manifestations. Based on a systematic review of the literature, we discussed the main aspects of eosinophilic esophagitis and eosinophilic gastrointestinal diseases and presented the differences between them in the form of diagrams and tables. Based on the systematic analysis, we also determined that the main treatment options include the elimination of food allergens, the use of proton pump inhibitors (PPIs), and tropical corticosteroids. Studies are underway on the future use of monoclonal antibodies, in particular anti-IL-5 and anti-IL-13 antibodies. 60% of patients with eosinophilic esophagitis have a history of allergic diseases such as asthma, rhinitis, atopic dermatitis, and food allergies. Therefore, the disease can be considered an important link between gastroenterology and allergology, requiring an interdisciplinary approach, timely diagnosis, and treatment.

19. VAKHTANG BERIDZE [1,2], TAMAR BAKHTADZE [1,2], SOPHIO BERIDZE [2], MIRANDA SHERVASHIDZE [1,2], MEGI KHABAZI [1,2]

RESPIRATORY SYMPTOMS IN URBAN AND RURAL CHILDREN IN THE ADJARA REGION (GEORGIA)

[1]Shota Rustaveli State University, Batumi, Georgia; [2]Maternity and Child Health Center, Batumi, Georgia

Background: A population-based survey showed 65% of children with asthma remain undiagnosed. Because of the unknown frequency of asthma and other common allergic diseases in children living in Georgia we conducted a population-based respiratory health survey. The objective of the study was to estimate the prevalence of Respiratory symptoms in urban and rural children of the Adjara Region (Western Georgia) and to examine their familial and environmental correlates.

Methods: The cross-sectional study included 3238 urban and 2081 rural children aged 5-17 years. Physician-diagnosed respiratory diseases and symptoms were ascertained using the ISAAC questionnaire completed by the parents. Both family and environmental factors were examined for their association with respiratory health outcomes including asthma and spastic bronchitis. Descriptive statistics and multiple logistic regression analysis were used to test associations.

Results: The overall prevalence of asthma was larger in rural children than in urban children (2.8% vs. 1.8%, respectively; p=0.01). Spastic bronchitis occurred with similar frequency in urban (7.8%) and rural children (6.5%). Compared with urban children, rural subjects had dry cough at night (13.1 vs 8.2%, p<0.001) and attacks of dyspnea (4.7 vs 2.4%, p<0.001) more often. The prevalence of other symptoms did not differ significantly between urban and rural subjects. Results of multivariate analyses showed that

both asthma and spastic bronchitis were associated ($p<0.05$) with parental history of asthma, dampness in the house, and poor financial standing of the family. In addition, asthma was related to coal/wood-based heating whereas spastic bronchitis was associated with passive smoking and lower parental education.
Conclusions: The findings show a low prevalence of ever-diagnosed asthma in the examined population. Nosological tradition and similar correlates of asthma and spastic bronchitis suggest that some cases of asthma might be included in the diagnostic category of spastic bronchitis.

20. MARIAM GIORGASHVILI, DATA KEKUTIA, NINO ADAMIA

THE IMMUNOLOGICAL IMPLICATIONS OF GUILLAIN-BARRE SYNDROME FOLLOWING UPPER RESPIRATORY INFECTIONS IN PEDIATRIC PATIENTS

Tbilisi State Medical University, M. Iashvili Children's Central Hospital

Introduction. Guillain-Barré Syndrome (GBS) is a rare, immune-mediated disorder causing rapid-onset muscle weakness and areflexia, often following infections. It affects 1-2 per 100,000 children annually, with upper respiratory infections as a common trigger. This case highlights a five-year-old girl who developed GBS post-infection, stressing the importance of early diagnosis.
Case Presentation. A previously healthy five-year-old developed fever, sore throat, and cough, followed a week later by progressive limb weakness. Examination revealed muscle weakness, areflexia, and sensory disturbances. Nerve conduction studies confirmed GBS, and cerebrospinal fluid (CSF) analysis showed elevated protein with normal cell counts (albuminocytologic dissociation).
Pathophysiology & Clinical Implications. GBS arises from an immune response attacking peripheral nerves, likely due to molecular mimicry. Prompt recognition is vital, as early treatment with intravenous immunoglobulin (IVIG) improves recovery. A multidisciplinary approach minimizes complications and long-term effects.
Conclusion. Understanding GBS triggers is crucial for prevention and treatment. Future research should identify pathogens associated with pediatric GBS and explore targeted therapies. Increased awareness among healthcare providers enables timely intervention and better patient outcomes.

21. LASHA TCHELIDZE, TINATINI MIGINEISHVILI, NINO ADAMIA, DAVIT MAKHATADZE

IMMUNOPATHOPHYSIOLOGY OF CROHN'S DISEASE AND MODERN HORIZONS OF DIAGNOSTICS

Tbilisi State Medical University, Department of Molecular Biology of the Cell and Parasitology, M.Iashvili Children's Central Hospital

Introduction. Crohn's disease is a chronic autoimmune inflammatory granulomatous disease that affects the entire digestive tract, especially the terminal part of the ileum and the large intestine. Its etiology is multifactorial and includes both genetic and immunological, as well as environmental factors. The disease can develop at any age. There is an almost equal prevalence rate in both sexes. Physical examination can identify patients who have complications such as strictures, fistulas, abscesses, or other extraintestinal manifestations. The Pediatric Crohn's Disease Severity Index (PCDAI), the Montreal Classification, and the Lemann Index, adopted in 2021, are important diagnostic criteria for this disease.
Methods. Up to 15 cases of Crohn's disease have been recorded at the M. Iashvili Children's Central Clinic over the past twenty years. The aim of the study was to analyze 5 clinical cases registered in the recent past, determine gender and ethnic preferences, assess patients using the Pediatric Crohn's Disease Severity Index, Montreal Classification, and Lemann Index, and identify prognostic criteria.
Results. Based on the analysis of the medical histories of five patients, we found that the disease was more common in males (4:1). Two patients had mild to moderate Crohn's disease (PCDAI score range - 10 - 37.5), and their assessment according to the Montreal Classification was A1L2 and A2L2. The Lemann Index, which shows the degree of damage to the digestive tract in Crohn's disease, was not determined due to the absence of surgical intervention. Three patients had a relatively severe form of Crohn's disease

(PCDAI score range ->40), we confirmed the presence of fistula in two of them, and stricture in one of them by the Montreal classification. The Lemann index was approximately in the middle of the internationally recognized range - 0.2-12.6. Extraintestinal clinical manifestations such as anemia and arthritis were detected in the latter patients.

Conclusions. Our study showed that Crohn's disease is actively progressing in the pediatric age. Various extraintestinal clinical manifestations accompanied the disease in the patients we studied who required surgical intervention. A high score of pediatric Crohn's disease severity, assessment of patients by the Montreal classification (various ALB variants), and a high Lemann index indicate a relatively severe course of the disease and require careful treatment. The main line of treatment in patients with mild disease was prednisolone, and in patients with severe disease was infliximab.

22. TINATINI MIGINEISHVILI, LASHA TCHELIDZE, NINO ADAMIA, NINO KHELADZE

AUTOIMMUNE THYROID DYSFUNCTIONS IN CHILDREN WITH DOWN SYNDROME

Tbilisi State Medical University, M. Iashvili Children's Central Hospital

Introduction. Down syndrome is the most common genetic condition caused by 21st chromosome trisomy. Among the associated diseases of Down syndrome, thyroid gland autoimmune pathologies are noteworthy, which manifest as both hypothyroidism and hyperthyroidism. Their clinical manifestation depends on the timing of disease development, the level of damage, and the degree of thyroid hormone deficiency or excess. Due to the variety of accompanying clinical symptoms and low specificity, diagnosing thyroid pathologies in children with Down syndrome is based on clinical presentation, anamnesis, laboratory, and instrumental data.

Methods. We retrospectively studied the medical history of 4 patients. The aim of the study was to assess the thyroid function based on the clinical presentation, anamnesis, laboratory data (TSH, FT4, anti-TPO, anti-TTG, total-IgG), and instrumental data (thyroid ultrasound) of children with Down syndrome.

Results. Based on the analysis of 4 patients' medical histories, we found that thyroid pathology was present in 1 patient in the form of hyperthyroidism and 2 patients in the form of hypothyroidism. In 1 patient, congenital hypothyroidism progressed to thyrotoxicosis. In patients with hypothyroidism, the following clinical symptoms were observed: loss of appetite, meteorism, constipation, and insomnia. In patients with hyperthyroidism, the following clinical symptoms were observed: enlarged thyroid gland, Graves' ophthalmopathy, difficulty breathing, drooling, dental caries, anxiety, irritability, and sleep disturbances.

Conclusions. Our study shows that thyroid gland pathologies are common among the associated diseases of Down syndrome. Timely, accurate, and regular medical monitoring of thyroid function plays a crucial role in the growth and intellectual development of children with Down syndrome.

23. SALOME MAGHLAKELIDZE, KETEVAN GOTSADZE, NERIMAN TSINTSADZE, EKA LILUASHVILI, MURAD TSINTSADZE, PIRDARA NOZADZE, ANKA KOBAKHIDZE

MANAGEMENT OF ODONTOGENIC SINUSITIS – A MULTIDISCIPLINARY APPROACH

Evergreen Clinic; Tbilisi State Medical University, Georgia

Odontogenic sinusitis, a form of maxillary sinus inflammation originating from dental infections or procedures, presents a unique diagnostic and therapeutic challenge due to its overlapping manifestations with rhinogenic sinusitis. This condition demands a collaborative approach involving dental professionals, otolaryngologists, and radiologists for accurate diagnosis and effective management. This review highlights the etiology, clinical presentation, and diagnostic strategies essential for differentiating odontogenic sinusitis from other sinus pathologies. Emphasis is placed on the importance of imaging modalities such as cone-beam computed tomography (CBCT). Treatment protocols are discussed in the context of both dental and sinus pathology, integrating surgical and non-surgical interventions. The multidisciplinary approach ensures comprehensive care, minimizes recurrence, and enhances patient

outcomes. This paper underscores the critical need for interprofessional collaboration in addressing the complex nature of odontogenic sinusitis.

24. IRINE NAKHUTSRISHVILI, KHATIA KHACHIDZE, KETEVAN GOTSADZE, SOPHIO JAPIASHVILI, TINATIN KHOZREVANIDZE, MARIAM TUTASHVILI

INFECTIOUS MONONUCLEOSIS AND ITS MANIFESTATION IN OTOLARYNGOLOGICAL PRACTICE

American Hospital and Reiman Clinic, TSMU, Tbilisi, Georgia

Infectious mononucleosis is a viral infectious disease, most commonly caused by the Epstein-Barr virus (EBV). The disease is widely prevalent in pediatric and early adolescent populations and is characterized by a variety of clinical manifestations, among which otolaryngological symptoms are particularly frequent. Pharyngotonsillitis caused by EBV is often the initial clinical manifestation of infectious mononucleosis and presents a significant challenge in terms of differential diagnosis.

Diagnosis is based on the assessment of clinical signs, along with laboratory tests - atypical lymphocytosis in the blood, EBV serological tests (VCA-IgM, VCA-IgG, EBNA), and, if necessary, PCR diagnostics. The therapeutic approach is primarily symptomatic and includes antipyretic, anti-inflammatory, and immunomodulatory treatment. Antibiotic therapy is considered only in cases of complicated disease progression or superinfection.

Timely recognition and management of infectious mononucleosis in otolaryngological practice is crucial, both to avoid inappropriate therapy and to ensure the patient's rapid recovery. Pharyngotonsillar inflammation, cervical lymphadenopathy, and hypertrophy of the nasopharyngeal mucosa often appear in the early stages of the disease, requiring differentiation from other serious conditions, including nasopharyngeal carcinoma.

Of particular concern is the fact that EBV is considered one of the etiological factors in the development of nasopharyngeal carcinoma, which necessitates even greater attention to timely diagnosis and monitoring of the virus. This paper reviews the clinical manifestations of infectious mononucleosis, its diagnostic features, and its potential association with malignant neoplasms of the nasopharynx. The role of the otolaryngologist is emphasized in both early diagnosis and the prevention of potential complications.

25. SOPHO JAVAKHADZE, KETEVAN GOTSADZE, KHATIA KHACHIDZE

LANGERHANS CELL HISTIOCYTOSIS IN OTORHINOLARYNGOLOGY

Japaridze-Kevanishvili Clinic; Curatio; Reiman's Clinic; TSMU, Department of Otolaryngology, American Hospital, Tbilisi, Georgia

Langerhans cell histiocytosis (LCH) is a rare disease that begins in LCH cells. LCH cells are a type of dendritic cell that normally helps the body fight infection. Sometimes mutations develop in genes that control how dendritic cells function. These include mutations of the *BRAF*, *MAP2K1*, *RAS*, and *ARAF* genes. These mutations may cause too many LCH cells to grow and build up in certain parts of the body: like skin, lymph nodes, lungs, liver and bone marrow, they also can form granulomas in upper and lower limbs. Risk factors of LCH can be exposing to virus like Epstein-Barr. Also having a parent who was exposed to certain solvents; Having a parent who was exposed to metal, granite, or wood dust in the workplace, having a family history of cancer or LCH, having a personal history or family history of thyroid disease, having infections as a newborn, smoking, not being vaccinated as a child. One of the most exposed organs to LCH are bones of the skull. This led to all damage and destruction of temporal and especially mastoid bones. For diagnosis we need to perform clinical-laboratory and instrumental tests (pet ct). Also very important is morphology. Treatment of LCH is surgery, radiation therapy, bone marrow transplant, chemotherapy.

26. NANA KAPANADZE

JOB'S SYNDROME (HYPER-IGE SYNDROME)

Tbilisi State Medical University

Job's syndrome or hyper-immunoglobulin E syndrome (HIES) is a rare, heterogeneous complex of primary immunodeficiency disorders. It is characterized by triad of extremely high serum immunoglobulin E (IgE) levels, recurrent cutaneous infections like chronic eczematous dermatitis, skin abscesses and recurrent pulmonary infections. These patients have characteristic facial appearance and many oral manifestations. Eosinophilia, retention of deciduous teeth and skeletal abnormalities are other important clinical features of this syndrome. Early diagnosis and treatment prevent progressive pulmonary sequelae and increase survival. About 200 cases of Job's syndrome has been reported worldwide. Familial HIES is of two types depending on the type of gene involved; autosomal-dominant Job's syndrome (AD-HIES), which develops due to mutation in human signal transducer and activator of transcription 3 gene (STAT3) and autosomal recessive Job's syndrome caused by DOCK8 gene mutation, but most cases are sporadic.

27. A. KOBAKHIDZE, A. MERKULAVA

CHRONIC RHINOSINUSITIS: GLOBAL TRENDS EPOS-20

"Belarusian State Medical University" Minsk, Republic of Belarus

Objective: Chronic rhinosinusitis (CRS) is a prevalent inflammatory condition of the paranasal sinuses, significantly impacting quality of life and healthcare systems worldwide. The EPOS-2020 guidelines provide updated insights into its epidemiology, pathophysiology, and management. This review highlights global trends in CRS as per EPOS-2020, focusing on diagnostic criteria, emerging phenotypes (e.g., CRS with/without nasal polyps), and evidence-based treatment strategies.

CRS affects ~5–12% of the global population, with variations across regions due to environmental and genetic factors. Endotype-driven classification now guides personalized therapy, including biologics for severe cases. The document highlights the heterogeneity of the disease: - CRSwNP (with CRS polyps): predominantly Th2-mediated inflammation, with the participation of IL-5, IL-13 and IgE. - CRSsNP (without CRS polyps): Th1/Th17-response and the role of biofilms. Particular attention is paid to microbiome imbalance and epithelial barrier dysfunction. EPOS-2020 recommends: Clinical criteria (symptoms lasting more than 12 weeks: nasal congestion, discharge, pain/pressure); Endoscopic examination to identify polyps; CT scan according to the Lund-Mackay system only before surgical intervention.

Therapeutic approaches: 1. Conservative treatment: Intranasal corticosteroids (first-line therapy). Antibiotics (macrolides in doses to reduce inflammation). 2. Surgical: FESS* (Functional Endoscopic Sinus Surgery) in case of failure of medical treatment. 3. Biological therapy: Anti-IL-4/IL-13 (dupilumab) and anti-IgE (omalizumab) for severe CRSwNP.

Conclusions. EPOS-2020 reinforces the shift toward precision medicine in CRS, addressing unmet needs through novel biomarkers and targeted therapies. Global collaboration is essential to optimize diagnostic and therapeutic frameworks. EPOS-2020 emphasizes a personalized approach based on endotyping and multidisciplinary collaboration. Despite progress, challenges remain, such as the identification of diagnostic biomarkers and the availability of biologics.

28. MIRANDA SHERVASHIDZE, ANA CHIKHRADZE, TAMAR BAKHTADZE, KHATIA DOLIDZE, TAMAR SHERVASHIDZE

OBESITY-RELATED HYPERTENSION IN ATHLETE CHILDREN

Batumi Shota Rustaveli State University, M. Iashvili Batumi Maternal and Child Central Hospital

In recent years there has been a dramatic increase in the prevalence of overweight in children and adolescents. Obesity is often associated with hypertension, which is an important cardiovascular risk

factor. Obesity during childhood is clearly not a benign condition. The higher the body mass index (BMI), the greater the likelihood of adverse cardiovascular risk factors. Overweight in childhood carries up to a 10 times higher risk of being overweight in adulthood. Obesity during childhood and adolescence is one of the strongest predictors of adult hypertension.
Outcomes related to childhood obesity include hypertension, type 2 diabetes mellitus, dyslipidemia, left ventricular hypertrophy, nonalcoholic steatohepatitis, obstructive sleep apnea, and orthopedic problems as well as social and psychological problems.
Our Aim was examining the trends in childhood blood pressure and the relationship between excess body weight and the development of hypertension and provide relevant recommendations.
Methods and Results: we performed an echocardiographic assessment of the cardiovascular system and also conducted 12-lead ECG monitoring and calculated their BMI. in 305 athletes aged 8 to 17 years, A group of 63 children was selected from these - including 42 rugby players and 19 judokas. Most participants did not have any symptoms or complaints of cardiac disease. Our study revealed that 24 (38%) participants had elevated blood pressure across three separate visits (white-coat hypertension was included). 21 (33%) participants had a BMI in the 90th percentile, and 10 (15%) had a BMI in the 95th percentile. 24 (36%) participants had a BMI in the 75th percentile.
Conclusion: Our study led to the identification of elevated blood pressure in rugby players and judokas and highlighted that it is more common in overweight and obese children. All overweight and obese children were subsequently referred to a pediatric endocrinologist.

29. DAVID BAKHTURIDZE, TAMAR MAGHLAKELIDZE, TEMUR CHIBURDANIDZE

MAXILLARY EXPANSION IN CASE OF SKELETAL ASYMMETRIES

Kote Mardaleishvili Clinic, Tbilisi, Georgia

Maxillo-facial skeletal asymmetry refers to the quite common multifactorial pathological process, that can be manifested not only in functional (chewing, speaking, breathing), but in esthetic disturbances. Undeveloped maxilla (narrowing in axial space) separately or in combination with other pathological processes, can be seen as one of the reasons for skeletal asymmetries.
Depending on the patient age, stage of skeletal development and the degree of skeletal deformation, treatment varies from the orthodontic-prosthodontic methods to the surgical expansion. Among the surgical methods, MARPE is biologically the most controlled version with adolescents and adults. It increases the control over the result and decreases the necessity of orthognathic surgery.
Based on experience, maxillary surgical expansion improves the functional disturbances and esthetic problems in a short period. Expansion of upper airways is also an important fact among the results. It improves breathing and can be considered as a treatment or prophylactic method of the frequent pathology – sleep apnea.

30. NESRETIN FATIH TURGUT

WHAT IS SIALENDOSCOPY?

Samsun Education and Research Medical University, Samsun Medikana Hospital, Turkey

Sialendoscopy is a modern and minimally invasive method used to visualize and treat the salivary gland ducts.
When is it Used? - Salivary gland stones; Ductal strictures; Recurrent salivary gland infections; Sjögren's syndrome; Salivary gland problems due to radioactive iodine therapy.
How is it Performed? - Using a thin endoscope, the duct of the salivary gland is accessed through the mouth. If necessary, stones are removed, strictures are dilated, or the duct is flushed. The procedure is usually performed under local anesthesia and does not require hospitalization.
What are the Advantages? - No surgical incision required; Fast recovery; Direct treatment option; Reduction in recurrent infections and dry mouth.
Remember: Sialendoscopy allows early diagnosis and effective treatment of many salivary gland diseases.

31. NINO OZBETELASHVILI, KETEVAN PETRIASHVILI, IA FANTSULAIA, NINO ADAMIA, PIRDARA NOZADZE, NINO TOTADZE, IRMA UBIRIA, DALI SHOVNADZE

NANOPARTICLES AND RESPIRATORY IMMUNOTHERAPY

Tbilisi State Medical University, M. Iashvili Children's Central Hospital, Department of Pediatrics

Nanoparticles and their application in the immunotherapy of respiratory diseases represent a major advancement in medical science. In recent years, nanotechnology has opened new possibilities for treating asthma, allergies, and other respiratory conditions. Due to their specific size, shape, and surface morphology, nanoparticles enable the targeted delivery of active substances, significantly enhancing the effectiveness of medications while reducing the risk of side effects. This study explores the mechanisms by which nanoparticles suppress allergic reactions, improve asthma treatment, and modulate the immune system. Of particular interest is their proper integration into clinical practice, which enhances drug efficacy and allows for a more personalized treatment approach.

The study **aims** to evaluate the potential of these technologies and analyze the outcomes of combining immunotherapy with nanoparticles.

Study Objectives: Investigate the use of nanoparticles in treating allergic asthma and other respiratory diseases. Assess the potential of inhalation vaccines, focusing on their efficacy and impact on the immune response.

Results: The study found that nanoparticles play a crucial role in the treatment of allergic asthma and other respiratory diseases. Nanotechnology enables the precise delivery of medications, reducing side effects and improving therapeutic outcomes. The size and surface morphology of nanoparticles are particularly important, as they enhance immune responses and accelerate the exchange of therapeutic compounds within the body.

Additionally, clinical trials of inhalation vaccines indicate their effectiveness in strengthening the immune response, representing a significant advancement in the treatment of allergic and asthmatic conditions. The high efficacy of inhaled vaccines, coupled with minimal side effects, offers a safer and more efficient treatment strategy. As a result, the study suggests that the combined use of nanoparticles and inhalation vaccines presents a promising and safe approach for the future treatment of respiratory diseases.