



Manuskrypt



# IMSC

## 31ST INTERNATIONAL MEDICAL STUDENTS' CONFERENCE

*Abstract Book*

13-15.04.2023, Krakow



# Contents Page

<b>Introduction</b> .....	2
---------------------------	---

## **Oral Sessions:**

Basic Science Oral Session.....	10
Cardiology & Cardiosurgery Oral Session.....	16
Dentistry Oral Session.....	24
Forensic Medicine & Pathology Oral Session.....	30
Gynecology & Obstetrics Oral Session.....	38
Internal Medicine Original Work Oral Session.....	45
Mental Health Oral Session.....	52
Orthopedics & Physiotherapy Oral Session.....	59
Pediatrics Original Work Oral Session.....	66
Pediatrics Case Report Oral Session .....	74
Pharmacy & Molecular Biology Oral Session.....	90
Public Health Oral Session.....	97
Surgery Original Work Oral Session.....	104
Systematic Reviews Oral Session.....	112
Technologies in Medicine Oral Session.....	118

## **Poster Sessions:**

Basic Science & Pharmacy Poster Session.....	125
Cardiovascular Case Report Poster Session.....	134
Internal Medicine Original Work Poster Session.....	148
Internal Medicine Case Report Poster Session.....	159
Public Health Poster Session.....	174
Surgery Case Report Poster Session.....	181
Systematic Review Poster Session .....	198
IMSC Team.....	209



# HONORARY PATRONAGES



JAGIELLONIAN UNIVERSITY  
IN KRAKÓW

**Rector of Jagiellonian University**  
Professor Jacek Popiel, PhD



JAGIELLONIAN UNIVERSITY  
MEDICAL COLLEGE

**Vicerector of Jagiellonian University  
for Medical College**  
Professor Tomasz Grodzicki, MD, PhD



**Chairman of Supreme Medical Chamber**  
Łukasz Jankowski, MD



**Rzecznik Praw Pacjenta**

**Obundzman od Patiens' Rights**  
Bartłomiej Chmielowiec, MBA



**President of Krakow**  
Professor Jacek Majchrowski, PhD



**Uniwersytecki  
Szpital Dziecięcy  
w Krakowie**

ul. Wielicka 265, 30-663 Kraków

**Director of Pediatric University Hospital in Krakow**  
Professor Wojciech Cyrul, PhD



# **Pediatrics** **Original Work**

*Oral Session*

## **Scientific Committee**

prof. Przemko Kwinta, MD, PhD

prof. Dorota Drożdż, MD, PhD

prof. Maciej Siedlar, MD, PhD

prof. Małgorzata Śladek, MD, PhD

## **Coordinators**

Mateusz Kęska

Maria Kurek



research studies have been published on this problem but epidemiological studies are insufficient.

**Aim of the study:** The aim of the study is to analyze and draw conclusions based on the epidemiology of blood infections of paediatric hematooncology patients at the University Children's Hospital (USD) in the period 2011-2021.

**Materials and methods:** We collected data of bacterial and fungal blood contaminations as well as bacterial and fungal infections epidemiology with cooperation with the Department of Clinical Microbiology UCH. Between 2011 and 2021, 7,667 blood samples were collected and 32,610 tests were performed on 1,914 patients. The analysed cultures were divided into 3 groups depending on the substrate specific for a given group of microorganisms.

**Results:** The number positive test result was 5.5%. The highest detection was noticed in 2021. Differences in the distribution of patients with positive and negative results in individual years were not statistically significant. The most common pathogen detected was *Staphylococcus epidermidis*, which was also the leader among Gram-positive microorganisms. There were not dominant species among the isolated Gram-negative microorganisms. Detection of anaerobic organisms was rare (only 4 different anaerobic organisms were isolated in single patients). The same was among the fungal observed. Mechanisms of resistance were included in the analysis of all identified strains- the most common was methicillin-resistant *Staphylococcus epidermidis* (MRSE).

**Conclusions:** Our results confirmed that bacterial infections are still a problem and may indicate the effectiveness of prophylaxis. Most of our results are consistent with the current literature, however we were able to highlight data unique to our patient population. Our findings can be helpful for clinical practice and be base for further research

## Is level of phospholipides in exhaled breath condensate predictive for pulmonary complications in children with acute leukemia?

Authors: Victoria Koval

Tutors: prof. Nataliia Makieieva, MD, DMedSc

Affiliation: Kharkiv National Medical University. Department of pediatrics №2

**Introduction:** Acute leukemia (AL) is the most common cancer in children. Due to the improvement of prognosis in recent years, more attention is concentrated on studying the complications of AL, including pulmonary ones. Phospholipids are the component of pulmonary surfactants and alveolocytes. Determination of phospholipids in exhaled breath condensate (EBC) can be predictive for pulmonary complications in children with acute leukemia.

**Aim of the study:** To assess the level of phospholipids in EBC in children with acute leukemia and its prognostic value.

**Materials and methods:** We examined 51 children aged 6-18 years with acute leukemia and 15 healthy children for the control group. Children with AL were divided into 2 groups: 1st group –during induction phase of chemotherapy (n = 24), 2nd group – in remission (n= 27). Levels of phospholipids in EBC were analyzed by spectrophotometric thin layer chromatography using an SPh 46 spectrophotometer. Data analysis was performed using Statistica 8 and the statistical program MedCalc version 17.2.

**Results:** Pulmonary complications were recorded in 86.27% % of children with acute leukemia: acute bronchitis (60.78%), pneumonia (49.01%), wheezing (21.57%), bronchial asthma (5.88%), interstitial pneumonia - in 1.96%, pleurisy (3.92%), pneumothorax (3.92%),

pulmonary fibrosis (1.96%), leukemic infiltration (1.96%). Acute pulmonary complications were presented in 87.50% of children (group 1). In 18.52% of children pulmonary complications persisted during the period of remission (group 2). The increased level of phospholipids in acute leukemia groups compared with control was found:  $p1-C=0.000000$ ;  $p2-C=0.000000$ . Children with acute leukemia during chemotherapy (group 1) had higher levels of phospholipids in EBC than children in remission (group 2):  $p1A-2=0.000007$ . Despite the decrease in phospholipids in children of the group 2, it is higher than one in healthy children of the control group. According to ROC analysis phospholipids level in EBC collected during the induction phase of chemotherapy  $>132.15$  mmol/l can be predictive for acute pulmonary complications (AUC 0.968; sensitivity 90.48%; specificity 100.00%). PL level in EBC in remission  $>131.16$  mmol/l can be predictive for persistent pulmonary complications (AUC 0.791; sensitivity 100.00%; specificity 77.27%).

**Conclusions:** The level of phospholipids in EBC can be considered a possible predictor of pulmonary complications in children with acute leukemia.

## Maxillofacial Space Infections in Pediatric Patients: a Retrospective Cohort Study

Authors: Gabrielė Šimėnaitė (1)

Tutors: Rūta Rastėnienė DDS, PhD (1,2)

Affiliation: (1) Institute of Dentistry, Faculty of Medicine, Vilnius University, Vilnius, Lithuania (2) Vilnius University Hospital Zalgiris Clinic, Vilnius, Lithuania

**Introduction:** Maxillofacial space infections (MSI) are dangerous conditions that may cause life-threatening complications. Advanced

odontogenic, advanced lymph node infections and trauma are the main causes of MSI. Such diseases at a young age are related to the overall poor oral health status among pediatric patients in Lithuania.

**Aim of the study:** The study aims to analyze the epidemiology, treatment and microbiological aspects of the pediatric patients hospitalized at Vilnius University Hospital Zalgiris Clinic due to MSI during a 17-year period.

**Materials and methods:** The study was approved by Vilnius Regional Bioethics Committee. Medical records of the pediatric patients hospitalized during the period of 2003.01.01 to 2019.12.31 due to MSI (ICD-10 code K12.2) were reviewed. The following patient data was collected: sociodemographic characteristics, length of hospital stay, treatment specifics and microbiological findings. IBM SPSS software was used for statistical analysis. Descriptive statistics and independent samples t-test were used. The threshold for statistical significance was set at  $p<0.05$ .

**Results:** In total, 171 cases of MSI were included. 123 (71.9%) cases were of odontogenic and 48 (28.1%) were of non-odontogenic origin. The mean age of the patients was  $10.8 \pm 4.4$  years. Male to female ratio was 1.5:1. A permanent lower molar was the most common cause of the infection in 88 (51.5%) cases. The submandibular space was the most commonly involved anatomical region in 73 (42.7%) cases. The mean length of hospital stay was  $5.9 \pm 3.7$  days. The most frequently prescribed group of antibiotics were penicillins in 134 (78.4%) cases. Surgical treatment was performed in 169 (98.8%) cases. Streptococcus spp. were the dominant microorganisms in odontogenic MSI while Staphylococcus spp. were the most prevalent in non-odontogenic MSI. Of all isolated microorganisms, 52 (37.1%) were resistant to penicillin.

**Conclusions:** The most prevalent maxillofacial space infections among pediatric patients were of odontogenic origin. The most frequent