

ACTA MARISIENSIS SERIA MEDICA

OFFICIAL PUBLICATION OF THE

GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE, AND TECHNOLOGY OF TARGU MURES



INTERNATIONAL CONGRESS FOR STUDENTS, YOUNG DOCTORS AND PHARMACISTS MARISIENSIS

12th – 16th May 2021

Târgu Mureș, Romania

BOOK OF ABSTRACTS

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BASIC MEDICAL SCIENCES

($p < 0,046$). **Conclusions:** There are no differences between the Residency grade of the people who had passed the MCAT the first time from the people who had taken the MCAT at least 2 times.

Keywords: residency, medical school, medical college admission test

THE ADVANTAGE OF BIOINFORMATIC ANALYSIS IN THE DIAGNOSIS OF MAROTEAUX-LAMY SYNDROME

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Background: The diagnosis of lysosomal storage diseases could be challenging in most of the cases and is primarily based on enzyme assay. This problem is well-illustrated by Mucopolysaccharidosis Type VI also known as Maroteaux-Lamy syndrome, in which the breakdown of glycosaminoglycans is damaged due to the deficiency in the enzyme arylsulfatase B (ARSB) caused by homozygous or compound heterozygous mutation in the ARSB gene (5q14). Particularly, due to ARSB disfunction dermatan sulfate and chondroitin sulfate molecules easily build up in cellular lysosomes, resulting in the affection of multiple organs. **Objective:** In my research I am aiming to ease the diagnosis of this rare autosomal recessive lysosomal storage disorder with the help of bioinformatic analysis, using a program made by myself. **Material and methods:** The goal of the bioinformatic analysis is to facilitate the comparison of the sample DNA sequence, obtained from chromosomal sequencing, with the structure of the normal gene. **Results:** The program written in C# can recognize the ARSB gene introduced in FASTA format and to detect if it is different from the normal sequence. In this case, it determines the exact positions and the type of nucleotides in which the introduced sequence is different from the normal one. In a further step the program can transcribe the sequence of the introduced gene into mRNA, and then to generate the structure of the protein encoded by this. **Conclusions:** The bioinformatic processing provides a reliable and quick solution to diagnose Maroteaux-Lamy syndrome, and it can be done even in early life stages, since the necessary genetic testing can be performed in the first week after birth. In conclusion, the solution described above ensures not only a cheaper, but also a more straightforward way of diagnosis, making it thereby an adaptable method in the future of precision medicine.

Keywords: Maroteaux-Lamy syndrome, arylsulfatase B, gene mutation, bioinformatic analysis

ETIOLOGIC AND CLINICAL FEATURES OF ACUTE INFECTIOUS DIARRHEA IN CHILDREN

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Background: Acute infectious diarrheal diseases are a major problem of public health worldwide remaining one of the main causes of morbidity and mortality in low-income countries. The most frequent causes of acute diarrhea in infancy, toddlerhood and early childhood are mainly viruses, bacteria and less often parasites. **Objective:** The aim of this study was to analyze the etiologic, clinical and therapeutic aspects of acute infectious diarrheal diseases in children hospitalized in Targu-Mures. **Material and methods:** The retrospective-descriptive study included 143 children seeking care at hospital units in 2017 in Targu-Mures. It was designed to evaluate data regarding the clinical manifestations from admission, etiologic diagnosis performed by usual microbiological methods-stool culture, oriented mainly to identify *Salmonella*, *Shigella* and *Enteropathogenic Escherichia coli* (EPEC) and also antibiotic resistance profiling, etiologic treatment and disease evolution. **Results:** Acute diarrheal disease was most frequent in boys (59%), in the age group of 1-2 years (32%), which live in rural areas (62%), in summer-autumn season (60%). Symptoms were dominated by watery diarrhea (42%) accompanied by abdominal colic, dehydration (64%) - the majority of which being classified as grade II mild to moderate (63%). The most prevalent bacterial pathogens were *Salmonella* spp. (9.5%) - with a preponderance of *Salmonella* group B of 69% and EPEC (8.5%). Strains of *Salmonella* group B presented a higher antibiotic resistance compared to group D while EPEC strains demonstrated a sensitivity of more than 50% regarding the antibiotic test batteries used in our laboratory. **Conclusions:** The bacterial etiological spectrum of acute infectious diarrhea in children included in this study was dominated by pathogens from *Salmonella* and EPEC genera. More than half of the studied strains manifested sensitivity concerning antibiotics used in routine treatment. For prevention, awareness should be raised regarding the importance of strict adherence to basic hygienic and sanitary measures related to water and food. Moreover avoiding contact with the diseased and educating about the importance of breastfeeding in the prevention and