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ePoster Viewing

Changes in the intestinal flora

Microbial flora in the pancreatic juice of children with chronic pancreatitis

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Objectives. The role of microorganisms in the pathogenesis of chronic pancreatitis has not been fully elucidated. The aim of this prospective hospital-based study was to analyse microbial flora in pancreatic juice in children with chronic pancreatitis.

Methods. The study group consisted of 18 patients with chronic pancreatitis (10 females and 8 males; age range 7-17 years; median 5 years), who underwent endoscopic retrograde cholangiopancreatography at the Children's Memorial Health Institute in Warsaw between November 2013 and October 2014. A total of 40 specimens of pancreatic juice and/or pancreatic prosthesis were collected and subjected to microbiological testing. The specimens were cultured on liquid and solid media, and incubated in both aerobic and anaerobic conditions. Isolation, identification and detection of mechanisms of antimicrobial resistance were performed by standard microbiological methods (API NE, VITEK 2, Disc Diffusion Method according to EUCAST guidelines).

Results. All investigated samples both pancreatic juice and pancreatic prosthesis showed microbial growth. A total of 164 bacterial and fungal strains were isolated, and all samples were polymicrobial with high microbial load 10^3-10^5 CFU/mL. Of these Gram-positive organisms comprised 43% (71 isolates), Gram- negative- 40% (n=65), *Candida spp*.- 10% (n=16), and 7% (n=12) were anaerobes. The most frequently isolated microorganisms were Enterobacteriaceae*(* 40%; n=65), *Streptococcus ssp*. (27%; n=44), *Enterococcus spp.* (13%; n=21), *Candida spp*. (10%; n=16), anaerobes (7% ; n=12) and *Staphylococcus spp.* (4%; n=6). Among Enterobacteriaceae most frequently isolated species were: *Klebsiella spp*., *E. coli* and *Enterobacter spp*. No significant rate of antimicrobial resistance was observed: only 11% of Enterobacteriace were ESBL and/or AmpC positive. The distribution of isolated microorganisms were comparable between both investigated materials: pancreatic juice and pancreatic prosthesis.

Conclusions. Pancreatic juice of children with chronic pancreatitis is highly colonized with diverse microbial flora, relatively susceptible to antimicrobial agents. However its role in the pathogenesis of chronic pancreatitis requires further investigations.