

**EV0866**

**ePoster Viewing**

**Other foreign-body and implant infections**

### **Bacterial and fungal colonization of pancreatic stents in children with chronic pancreatitis**

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**Background:** The prevalence of chronic pancreatitis (CP) in childhood has increased in recent years, and it may result in growth retardation and malnutrition. The pancreatic duct system is considered sterile. However, pancreatic stents (PS), placed during an endoscopic retrograde cholangiopancreatography (ERCP) - a well established therapy in children with CP, are prone to colonization by microorganisms, especially enteric flora, that can create a biofilm on the stent surface. Bacterial and fungal colonization may potentially contribute to adverse patient outcomes. The aim of this prospective hospital-based study was to determine the incidence of microbial PS colonization in relation to etiology of CP, the use of antimicrobial prophylaxis before ERCP, and the indwelling time of PS

**Material/methods:** The study group consisted of 22 patients with CP (13 females and 9 males; age range 6-17 years; median 13 years), who underwent ERCP at the Children's Memorial Health Institute in Warsaw between November 2013 and September 2015. The underlying causes of CP were: hereditary pancreatitis (2 patients with *PRSS1* gene mutation; 7 patients with *CFTR* and/or *SPINK1* gene mutation), idiopathic pancreatitis (n=9), anatomic anomalies of the pancreatic duct (n=4). The median duration of PS emplacement was 137 days (range 36-236 days). Removed PS 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 showed microbial growth. A total of 79 bacterial and fungal strains were isolated, and all samples were polymicrobial with high microbial load  $10^3$ - $10^5$  CFU/mL, regardless of the patients' antimicrobial treatment (12 patients received prophylaxis before ERCP procedure, and 1 patient due to acute pancreatitis episode underwent 12 days of imipenem treatment), and the duration of PS emplacement. Microbial analysis: Gram-negative organisms comprised 43% (n=34) of recovered isolates, followed by Gram-positive bacteria (35%; n = 28), *Candida* spp. (14%; n = 11), and anaerobes 8% (n = 6). The most frequently isolated microorganisms were Enterobacteriaceae (mainly *E. coli*, *Klebsiella* spp. and *Enterobacter* spp., 43%; n=34), *Streptococcus* ssp. (16%; n=13) and *Enterococcus* spp. (15%; n=12). No significant rate of antimicrobial resistance was observed: only 15% of Enterobacteriaceae were ESBL and/or AmpC positive, and all were carbapenem-susceptible

**Conclusions:** Pancreatic stents are highly colonized with the diverse microbial flora, including clinically significant microorganisms. The role of such colonization in the pathogenesis of exacerbation of chronic pancreatitis requires further investigations, however it may potentially pose a risk of secondary infections of the pancreas