



# Bacterial Infections in children after liver transplantation.

Anna Szyszkiewicz<sup>1</sup>, Katarzyna Dzierżanowska-Fangrat<sup>1</sup>, Marek Szymczak<sup>2</sup>, Katarzyna Semczuk<sup>1</sup>, Beata Fronc<sup>1</sup>, Danuta Dzierżanowska<sup>1</sup>

The Children's Memorial Health Institute, <sup>1</sup> Department of Clinical Microbiology and Immunology, <sup>2</sup> Department of Surgery and Organ Transplantation, Warsaw, Poland

## Introduction

Pediatric patients after liver transplantation (LTx) are at high risk of morbidity and mortality of infectious complications resulting from a combination of a severe underlying disease, an invasive surgical procedure and an immunosuppressive therapy<sup>1</sup>. The aim of this study was to evaluate bacterial infections in pediatric patients who underwent LTx at The Children's Memorial Health Institute in Warsaw.

## Methods

❖The study group consisted of 144 patients who underwent LTx between 2009–2012 (Table1).

Numer of patients	144
Sex (Female/ Male)	76 F/ 68 M
Age	median 24 mo. ( range: 4 mo.- 17 years)

Table 1: Characteristics of the study group.

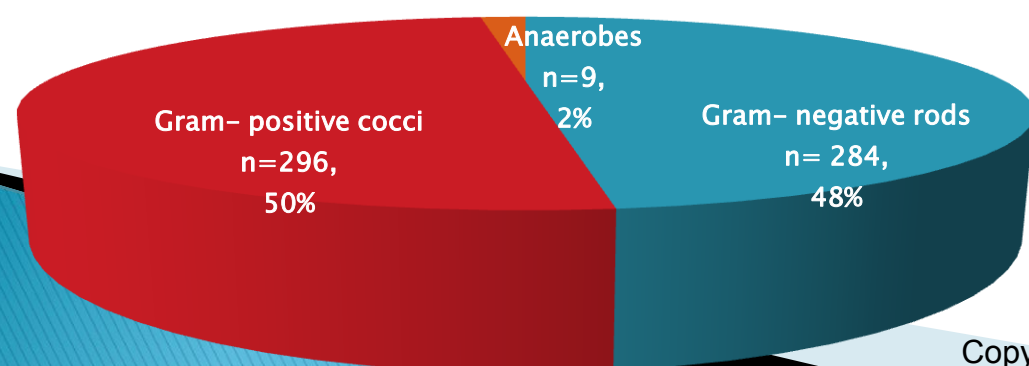
❖The follow-up time of post-transplant observation of each patient was 12 months

❖Bacterial infections were diagnosed based on clinical and laboratory manifestations including results of microbiological testing

## Results

❖During the study period a total of 589 bacterial strains were isolated: 50% were Gram-positive organisms, 48% were Gram-negative and 2% were anaerobes (Fig 1).

Fig 1: Microorganisms causing infections during first 12 mo. after LTx (total no =589)



## Results

❖Fig. 2 shows the distribution bacterial species isolated from children with signs of infections during the first 12 months after LTx.

❖A total of 54% of *Enterobacteriaceae* were ESBL- or/and AmpC- positive. Among *P. aeruginosa* strains 39% were non-susceptible to carbapenems, and 26% were MDR.

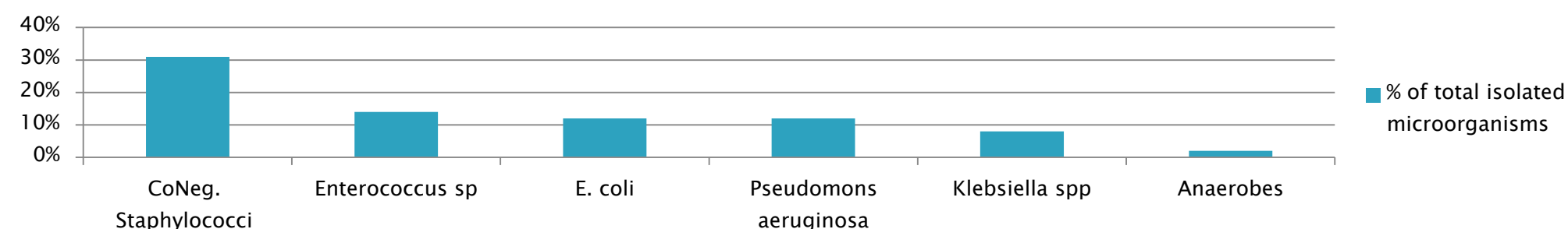


Fig 2: The most frequently isolated microorganisms during 12 mo. after LTx (total no of isolates n=589)

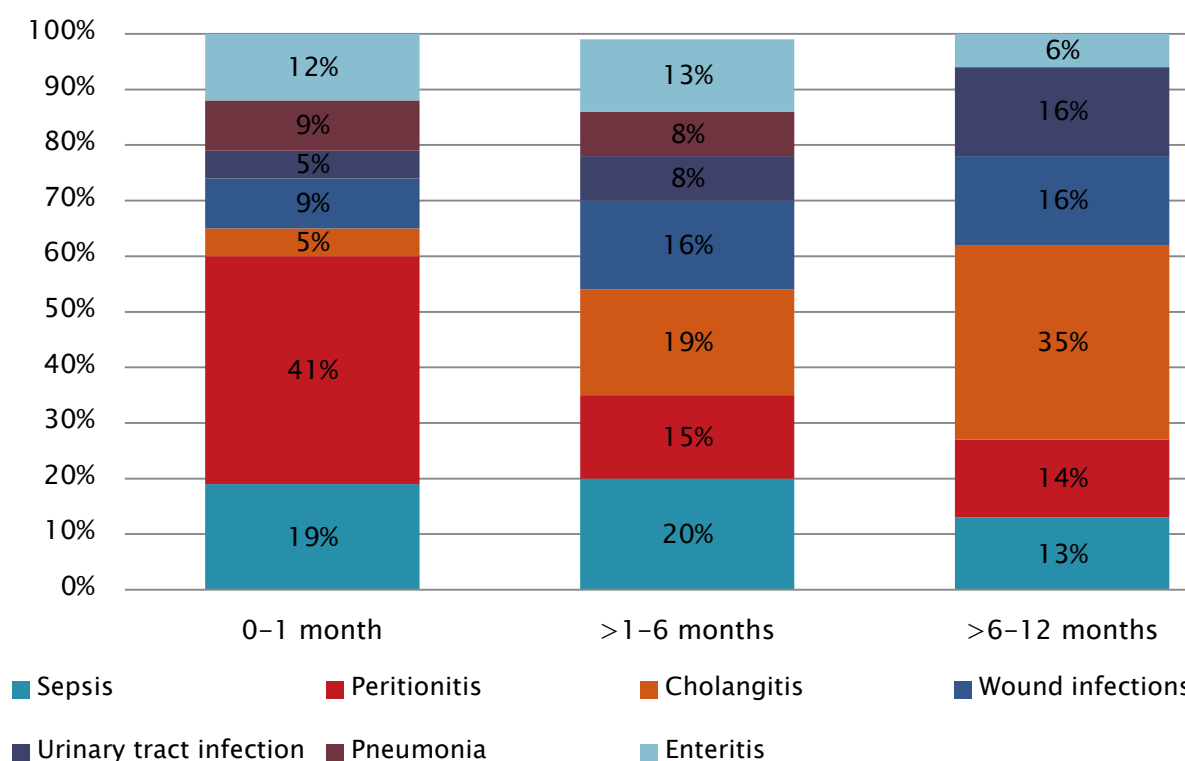


Fig 3: Clinical manifestations and timing of infections after pediatric LTx

❖During 12 mo. of the follow-up the most common types of infections were intraabdominal (other than cholangitis; 36%) and vascular infections (19%).

❖Differences in incidence of particular types of infections depending on time post LTx were observed (Fig. 3)

❖Within 0-1 mo. after LTx, the most frequent infections were intraabdominal and vascular infections comprising 41% and 19%, respectively.

❖Between 2 and 6 mo. vascular and intraabdominal infections were responsible for 20% and 15% of all infectious episodes.

❖After 6 mo. the most common manifestation was cholangitis (35%).

## Conclusions

❖ Pediatric patients within the first 6 mo. after LTx are at high risk of vascular and intraabdominal infections caused predominantly by CNS and *Enterobacteriaceae*, including resistant strains.

## References:

1. J.E. Kim, S.H. Oh, K.M. Kim, et al. *J Korean Med Sci* 2010; 25: 527-31