Background and Aims To determine the demography, clinical manifestations and the most common organism isolated of the urinary tract infection (UTI) in the newborn infants who were admitted to the neonatal intensive care unit (NICU).

Methods Newborn infants diagnosed with UTI were investigated retrospectively, clinical and demographic characteristics of infants were collected from the medical records in the NICU. Urine cultures were obtained by suprapubic aspiration or urinary catheter.

Results Fifty-one infants were included in this study. The mean (±SD) gestational age and weight of infants was 31.5±3.52 weeks, and 1724.9±902.2 g respectively. Male patients accounted for 56.9% of the study group. Infants born with cesarian section were 86.3. The median age for the urine culture was 31.5±4.3 days. Klebsiella pneumoniae was the dominant microorganism isolated in 22 patients (43.1%), followed by Escherichia coli in 13 patients (25.4%). The most common presenting symptoms were vomiting in 39 (76.5%) infants, desaturation in 34 (66.7%) infants, tachycardia in 31 (60.8%) infants, apnea in 21 (41.2%) infants and jaundice in 18 (35.3%) infants.

Conclusions The incidence of UTI in newborn infants is 0.1–1% and it can be as high as 10% in low-birthweight and preterm babies. The presentation of UTI in the neonatal infants is non-specific and the most common clinical manifestations are vomiting, fever, enteral feeding intolerance, apnea and bradycardia. In this study, desaturation and tachycardia are also shown as presenting manifestations of UTI. Klebsiella pneumoniae was the dominant microorganism isolated in 22(43.1%) patients in our study.

EFFECTS OF INTRAPARTUM ANTIBIOTIC PROPHYLAXIS ON NEWBORN MICROBIOTA

Background and Aims Group B Streptococcus (GBS) early-onset bacterial sepsis is an important cause of neonatal morbidity and mortality. In the last decade, after the introduction of intrapartum antibiotic prophylaxis in pregnant women during labor and delivery, the sepsis-associated death rates have declined. The aim of this study is to evaluate the effects of antibiotic treatment of pregnant women GBS-positive on early colonization of bacteria in the newborn gut, which is known to be related to immunity development.

Methods Thirty-four vaginal delivered and breastfed newborns were enrolled; 17 had mothers GBS-positive treated with 2g of Ampicillin and 17 had mothers GBS-negative (control group).

Two-hundred milligrams faeces were collected for each subject and processed for DNA extraction, performed with QIAamp DNA Stool Mini Kit (Qiagen, Cat. No. 51504). Lactobacillus spp., Bifidobacterium spp., Bacteroides fragilis group, C. difficile and E. coli quantification was obtained with real-time PCR. Data of microbial counts were subjected to one-way variance analysis in order to evidence significant differences between treated and control group of newborns.

Results Antibiotic therapy reduced the intestinal colonization of Bifidobacterium: 5.51 Log(CFU/g) in treated samples against 7.07 Log(CFU/g) in control samples; P<0.05.

All the others microbial genera and species analysed were not affected by the maternal treatment with Ampicillin.

Conclusions Preliminary results showed a decrease of early Bifidobacterium count in the microbiota of newborns; the clinical meaning or the effect on newborn immunity need to be investigated with larger studies.

EFFICACY OF PROPHYLACTIC FLUCONAZOLE IN REDUCING CANDIDIASIS IN HIGH RISK NICU AND PICU PATIENTS

Background Candidial infection is a common cause of morbidity and mortality in neonatal intensive care unit (NICU) and pediatric intensive care unit (PICU) patients, especially those with risk factors.

Objectives To determine the prevalence of Candida species in high risk NICU and PICU patients and evaluate the efficacy of prophylactic Fluconazole in reducing Candida colonization and subsequent invasive candidiasis in those patients.

Design Prospective, randomized, double blind placebo controlled clinical study.

Setting Tertiary level intensive care units at pediatric department.

Subjects 80 intensive care unit high risk group patient of neonatal and pediatric age.

Intervention Children were randomly grouped during first three days to receive either Fluconazole or placebo till 28 days or less, if discharged or died earlier. Weekly surveillance cultures from oropharyngeal swabs, urine, stool, sputum (when available), and blood.

Results Baseline risk factors for Candida infection in Fluconazole and Placebo groups were similar. Candida colonization was reported in 35 patients (87.5%) in the placebo group which was significantly higher (P=0.0001) than that detected among patients in the Fluconazole treated group [10 patients (25%)]. Fluconazole treated group showed significantly lower colonization with Candida albicans (C. albicans) and higher colonization with non Candida albicans (non-C. albicans) versus placebo group. Invasive Candida infection was significantly higher (P=0.03) among placebo group than Fluconazole treated one. Invasive non-C. albicans infection was reported in 9/13 patients [6 patients (66.6%) in Placebo group and 3 patients (33.3%) in Fluconazole treated group].

Conclusion Prophylactic Fluconazole in risky patients in ICU is effective in reducing Candida colonization but not invasive candidiasia.