Background and Aim The aim of this study, the frequency of catheter associated blood stream infection (CA-BSI) and its effect to mortality and length stay (LOS) of hospital.

Methods This study was conducted between November 1, 2010 and February 29, 2012, and is prospective and observational.

Results During study period, 275 patients admitted to PICU. Fifty-six percent of all patients were girl and their mean age were 87±87.4 months. There was CVC in 107(38.9%) patients. Also, there were CVC at vena jugularis interna (VJI) in 48.9%, femoral in 46.7% and subclavian in 4.3% of patients with CVC. There were 25 times CA-BSI in 16 (14.8%) patients. Totally CVC use day was 1589 days and CA-BSI was 14 attack/1000 days within study period. The agents of CA-BSI were A. Baumannii (26%), MR-Coagulase Negative Staphylococcus (21.7%), ESBL (+) Kl. Pneumonia (21.7%), VRE (8.6%), P. Aeruginosa (8.6%). There were 169 patients without CVC and 4 (2.4%) of them BS1. CA-BSI was 88% of all BS1. The LOS of PICU was 43.7±637 days in patients with CA-BSI and 11±11.4 days in patients without CA-BSI in patients with CVC (p=0.005). The LOS of PICU in patients without CVC, 29±16.1 days in BS1 group and 5.1±5.7 days in without BS1 group (p=0.001).

During study period, 36 (15%) patients died and 5 of them were related CA-BSI.

Conclusion CVC use is severe risk factor for CA-BSI, LOS of PICU and mortality.

Background and Aim Acinetobacter baumannii has become an important cause of nosocomial infection, but little is known about its impact on the neonatal intensive care unit (NICU). We planned to characterize the clinical manifestations and outcomes of patients with A. baumannii bacteremia in the NICU.

Methods All patients with A. baumannii bacteremia in our NICU from 2003–2010 were reviewed. A matched case-control study was performed by comparing each case of A. baumannii to 2 uninfected controls and all cases of Escherichia coli and Klebsiella bacteremia, respectively.

Results 57 sporadic cases of A. baumannii bacteremia were identified. Pan-drug resistant isolate was noted in only 2 cases (5.4%), and the overall mortality rate was 8.1%. Infants with A. baumannii bacteremia had median gestational age and birth weight of 28 weeks and 1090 grams, respectively. Compared to matched, uninfected controls, infants with A. baumannii were more likely to have had a central vascular catheter (CVC) (OR=3.78, 95%CI: 1.44 to 12.35) and longer duration of ventilator use and hospitalization (both p<0.001). Compared to E coli or Klebsiella bacteremia, infants with A. baumannii bacteremia had lower birth weight (median of 1090gms vs 1300gms, P=0.044) and a higher rate of CVC and TPN use (both P<0.001) at the time of infection.

Conclusions A. baumannii bacteremia occurs sporadically in the NICU, primarily in low birth weight infants on TPN use and with CVC in situ. Although A. baumannii does not often cause mortality and PDR- A. baumannii is uncommon, it contributes significantly to longer hospitalization.

Background and Aims Coagulate negative Staphylococci (CoNS) are most prevalent pathogens in central line associated bloodstream infections (CLABSI) in very low birth weight (VLBW) infants. The aim of this study was to compare CLABSI caused by CoNS in terms of virulence and clinical relevance.

Methods A retrospective observation analysis of all CLABSI caused by CoNS in VLBW infants admitted to our NICU during a 5-year period (2006–2010) was performed. Two groups of CLABSI were compared: the OXAS caused by CoNS susceptible to oxacillin and the OXAR caused by CoNS resistant to oxacillin.

Results There were 54 episodes of CLABSI caused by CoNS found in 51 infants, 14 in the OXAS group (average BW±SD: 855g±293; average GA±SD: 25.9 wks±2.8) and 40 in the OXAR group (average BW±SD: 788 g±241; average GA±SD: 26.2 wks±2.3). The OXAR group presented a higher maximum CRP levels (median±95%CL: 27.15 mg/l vs. 21±12 mg/l, P=0.047), as well as the maximum values of the I/T index (median±95%CL: 0.23±0.04 vs. 0.19±0.05, P=0.051), higher number of positive blood cultures (median±95%CL: 1±0.14 vs. 2±0.3, P=0.006) and the tendency to a higher incidence of necrotizing enterocolitis (38% vs. 14%, P=0.078).

Conclusions Resistance to oxacillin in CoNS CLABSI has a relevant influence on higher levels of inflammatory markers and the tendency to NEC in VLBW infants.