trough level. There was a significant reduction in the number of babies with high trough amikacin levels after the dose was changed from 12 mg/kg/day to 12 mg/kg every 36 hours. We recommend this dose for use in infants less than 32 weeks gestation with continued monitoring of amikacin levels.

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PS-219 PREDICTORS OF CLINICAL AND MICROBIOLOGICAL TREATMENT FAILURE IN NEONATAL BACTEREMIA

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Aims To identify independent predictors of clinical and microbiological treatment failure and develop a predictive model in neonates with bloodstream infections (BSIs).
Methods A total of 1078 episodes of BSI occurred in 793 neonates in a tertiary-level neonatal intensive care unit (NICU) between 2004 and 2012 were enrolled. Patient demographics, underlying chronic comorbidities, clinical features, antimicrobial treatment and microbiological characteristics were evaluated.
Results Presences of underlying congenital anomalies (odds ration [OR] 2.22, 95% confidence interval [CI] 1.15–4.29) and pulmonary hypertension (OR 3.57, 95% CI 1.65–7.70), infections caused by multidrug-resistant gram-negative bacteremia (OR 2.84, 95% CI 1.21–6.66), *Group B streptococcus* (OR 3.08, 95% CI 1.31–7.26), and fungus (OR 4.06, 95% CI 1.97–8.38), a NTISS score of ≥ 23 (OR 6.61, 95% CI 2.40–26.47), inappropriate antibiotics (OR 2.01, 95% CI 1.31–3.08), and concomitant meningitis (OR 4.35, 95% CI 2.13–8.89) and ventilator-associated pneumonia (OR 2.82, 95% CI 1.26–6.32) were identified as independent risk factors for 28-day treatment failure in neonatal bacteremia. A risk-score model was created by adding points for each independent risk factor, and had a c-statistic of 0.83. Patients with risk scores of 0, 4, 8, 12 and 15 had estimated 28-day treatment failure rates of approximately 3%, 17%, 52%, 85% and 95%, respectively.
Conclusions This predictive model, calculated after documentation of a BSI, reflects spectrum of BSI severity and is associated with subsequent treatment failure through illness severity score and case-mix variables. This simple score could prove useful in clinical and research settings, and practical in estimating the prognosis.

PS-220 NOSOCOMIAL INFECTIONS DUE TO MULTIDRUG-RESISTANT MICROORGANISMS IN NEONATES

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Aim We aimed to evaluate nosocomial infection (NI) rate and antimicrobial susceptibilities of microorganisms causing NI in our Neonatal Intensive Care Unit (NICU).
Material and method NI afflicting infants admitted to NICU of Bahcesehir University Göztepe Medicalpark Hospital between January 2012 and December 2012 were assessed using Centre For Disease Control And Prevention (CDC) criteria. Only culture-positive infants were enrolled.
Results Of 328 infants, 49.1% were preterm. Thirty-five nosocomial infections occurred in 19 (6.4%) patients. Incidence density was 6.8/1000 patient-days. Attact rate per patient was 1.84. Two infants (10.5%) succumbed to death, one with a liver abscess due to Staphylococcus epidermidis, other with Candida albicans sepsis. Ventilator associated-pneumonia (VAP) rate (n = 4) 2.3/1000, sepsis rate (n = 19) 5.7/1000, UTI rate (n = 10) 1.5/1000, wound infection rate (n = 1) 0.1/1000, catheter infection rate (n = 2) 4/1000 and meningitis rate were (n = 1) 0.1/1000. Of 35 nosocomial agents 22 (62.8%) were gram negative (10 Klebsiella spp, 4 Enterobacter, 3 Acinetobacter, 3 E. coli, 2 Peudomonas), 10 (28.5%) were gram positive and 3 (8.6%) were Candida spp. All gram negatives were resistant to cephalosporins. Thirty-one percent of gram negative bacteria were resistant to carbapenems. Carbapenem-resistant gram negative agents were namely Acinetobacter baumanii complex, Pseudomonas aeruginosa and Enterobacter cloacea complex, All bacteria were susceptible to colistine.
Conclusion ESBL positive and carbapenem-resistant gram negative bacteria are threats for NICU. It is of vital importance to implement reasonable antibiotherapy strategies and to propagate standart infection control measures.

PS-221 LOWER MATERNAL/NEONATAL VITAMIN D LEVELS ARE ASSOCIATED WITH INCREASED RISK OF EARLY ONSET NEONATAL SEPSIS IN TERM INFANTS

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Background and aims Besides its well known role in bone metabolism, vitamin D also has immune modulatory effects. Although the link between vitamin D deficiency and various infections has been reported, no study has evaluated the effect of vitamin D levels on neonatal sepsis. The aim of this study was to evaluate the effect of vitamin D levels on early-onset sepsis (EOS) in term infants. The association between the severity of vitamin D deficiency and EOS was also investigated.
Methods Fifty term infants with clinical and laboratory findings of EOS (Study group) and 50 healthy infants with no signs of clinical and laboratory infection (Control group) were enrolled. Infants with high probable sepsis consisted the Study group and the healthy infants with no signs of clinical and laboratory infection were referred to as the Control group. Blood for neonatal and maternal vitamin D levels were obtained from all infants and their mothers at the postpartum period at the time of hospital admission.
Results Both maternal and neonatal 25-hydroxyvitamin D (25-OHD) levels in the Study group were significantly lower compared with those of the Control group ($p < 0.001$). A positive correlation was detected between maternal and neonatal 25-OHD levels. Both maternal and neonatal 25-OHD levels were significantly higher in summer and with regular vitamin D supplementation during pregnancy. Severe vitamin D deficiency was significantly more common in the sepsis group.