Methods: Chemiluminiscent immunometric assay was used for IL-6 (IL-6 Immulite, DPC) and LBP (Immulite LBP, DPC) determination, immunoluminometric assay for PCT (LUMitest PCT) and immunoturbidimetric for CRP (QuickRead CRP, Orion Diagnostica) determination. Diagnostic accuracy for each parameter was assessed by ROC curve analysis (AUC). Statistical analysis was performed using MedCalc for Windows, version 5.0.

Results: Forty patients (21 girls, 19 boys) with the median age of 5.6 years (range 0.5 - 19.9) experienced 82 episodes of FN. Underlying disease was hematologic in 55 and solid tumor in 27 episodes. Bacteremia was confirmed in 16 (19.5 %) episodes; Gram negative in 8, Gram positive in 7 and combined in 1 episode. The fever was due to local infection in 14 (17 %), viral in 9 (11 %), whereas in 41 episodes (50 %) the cause could not be identified (FUO).

On day 1 the best diagnostic accuracy (AUC) was seen for IL-6 (0.765) followed by CRP (0.738), LBP (0.696) and PCT (0.666). On day 2 CRP had the best diagnostic accuracy (0.824), followed by IL-6 (0.753), PCT (0.695) and LBP (0.685).

Conclusions: New inflammatory markers did not show advantage over CRP, except for IL-6 on the first day.

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USE OF MEROPENEM IN NEONATAL SEVERE INFECTIONS CAUSED BY MULTIRESISTANT GRAM NEGATIVE BACTERIA

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Aims: Numerous non randomised studies published recently have suggested that the meropenem may be useful and safe antibacterial agents in neonatal severe infections caused by multi drug resistant (MDR) organisms. The aim of our report is to demonstrate the efficacy of meropenem in the treatment of severe infections in the newborns due to this organisms.

Methods: We reported the use of meropenem in 23 neonates, gestational age of 30. to 39. weeks and birth weight of 1250 - 3100 grams with severe infections due to MDR Escherichia coli, Klebsiellae pneumoniae and Serratia spp. Bacterial pathogens were isolated pretreatment in 14 of patients and all were susceptible to meropenem in vitro. Meropenem in dose of 20 mg/kg was administrated i.v. in 60 min infusion every 8-12 hours during 10-14 days as monotherapy as a second choice because of deterioration during conventional treatment.

Results: Clinical and bacterial response rate for meropenem were 100% for pneumonia, ITU and septicaemia, and 96% for NEC. One died. The incidence of drug related adverse events (mostly a slight decrease in number of thrombocytes) was 13.0%. No adverse events such as vomiting, diarrhea, glossitis, moniliasis, thrombocytosis, severe thrombocytopenia, eosinophilia, impairment of liver and renal function, rash, thrombophlebitis, Staphylococcus epidermidis colonisation and sezaures were observed.

Conclusion: These results demonstrate the efficacy of meropenem in the treatment of severe infections in newborns due to multiresistant gram-negative bacteria and can be used as appropriate empirical therapy and lead to improved outcome.

Keywords: Meropenem, newborn, nosocomial infections.

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BLOOD CULTURE ISOLATES DURING ONE YEAR IN A CENTER OF NEONATOLOGY IN MONTENEGRO

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Septicemia is the leading cause of acquired illness among neonates. Prompt and effective antimicrobial therapy plays the most important role in the success of treatment. The purpose of this study was to identify the major organisms cultured from septicemic newborns at the Institute for Children Diseases in Montenegro. The study included 770 cases of clinically suspected neonatal septicemia admitted in the Center for Neonatology of Institute for Children Diseases in Montenegro during the period from March 2009 to March 2010. Blood samples were collected with all aseptic precautions for culture and sensitivity studies. Blood cultures were processed

using the standard technique and the antibiotic sensitivity was performed by Kirby -Bauer's disc diffusion method. The aerobic isolates were studied in detail by Gram's staining, colony characteristics, biochemical properties and antibiotic sensitivity. Blood culture reports of these 770 clinically suspected neonatal septicemia cases were reviewed and there was no growth in 499 (63.80%) cases. Blood cultures were contaminated in 36 (4.6%) cases. Gram positive cocci constituted 86.80% of 235 isolates in blood cultures. Coagulase negative staphylococcus (CONS) was predominant isolate (65.53%). Gram positive bacteria *Staphylococcus aureus* was isolated from 40 (17.02%) positive blood culture. Among Gram negative organisms *Klebsiella* spp. was predominant pathogens (24/30 Gram negative isolates). According to the results CONS, *Staphylococcus aureus* and *Klebsiella* spp. are the principal organisms causing neonatal sepsis in Montenegro.

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NEONATAL SEPTICAEMIA: BACTERIOLOGICAL PROFILE AT A DISTRICT GENERAL HOSPITAL IN UK

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Background and aims: Septicaemia remains an important cause of morbidity and mortality in neonates with blood culture as the gold standard investigation. Doing periodic epidemiological surveys of aetiological agents and their sensitivity patterns help in the recognition of most frequently encountered pathogens. It also guides antimicrobial therapy and helps to reduce potential mortality. Aim was to determine the bacteriological profile and sensitivity pattern of the isolates from both anaerobic and aerobic blood culture bottles in the neonatal unit.

Method: Retrospective data was collected from all the blood cultures sent from our neonatal unit between October 2007 and October 2009.

Results: Of the 886 blood cultures, 55 (6.2%) were positive. 36 (65%) were associated with early onset sepsis (within 48 hours after birth). 22 (40%) were positive cultures from the aerobic bottle, 23 (42%) from anaerobic and 10 (18%) from both bottles. The most common organism isolated was coagulase

negative staphylococcus (65%), many of which were likely to be skin contaminants. 6 (11%) were group B streptococcus and 6 (11%) were Gram negative rods with *Enterobacter* sp. and *E. coli* as the main organisms. All the group B streptococci were susceptible to penicillin and the Gram negative organisms to cefotaxime.

Conclusions: Majority of the organisms were coagulase negative staphylococci. Antibiotics chosen for empirical cover are appropriate for the clinically significant organisms isolated. It is important to send blood in both anaerobic and aerobic culture bottles and the result should be interpreted in relation to the clinical condition of the neonate.

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THE CLINICAL OBSERVATION OF THE INFANTS BORN FROM MOTHERS WITH GENITAL *UREAPLASMA UREALYTICUM* COLONIZATION

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Background: Genital colonization of *Ureaplasma urealyticum* (Uu) in pregnant women could transmit vertical infection of their babies (about 15~89% of offspring) and cause neonatal infection, which result in infection in many organs. The purpose of this study was to determine clinical influences on the infants born from genital Uu colonization mothers.

Methods: We retrospectively reviewed the data for analysis of the 219 infants born from mother who had test for genital Uu culture (about 470 cases) for 3 years (Mar 2006 - June 2009) in East-West Neo Medical Center, Kyunghee University. The neonatal clinical manifestations such as, duration of tachypnea, incidence of oxygen therapy, respiratory distress syndrome (RDS), bronchopulmonary dysplasia (BPD), sepsis, jaundice, feeding intolerance, etc. were investigated by gestational period (GP).

Results: In case of positive genital Uu culture of mothers, the preterm infants (GP < 35 weeks) had increased heart rate within 6 hours after birth, prolonged tachypnea, short period of antibiotics use, and lower incidence of RDS and hypocalcemia. oxygen therapy duration, the methods and duration