

prophylaxis was extended to neonates of birth weight of 1500 grams and below. The rate of invasive fungaemia was monitored as part of an ongoing CQI project to reduce nosocomial infection rates in the NICU.

Results 799 VLBWI were admitted during the study period out of which 227 were ELBWI. There were no differences in birth weight, gestation and gender distribution.

Abstract 1164 Table 1 Episodes & Rate of Fungaemia

	2004	2005	2006	2007	2008	2009	2010	2011
Episodes	13	3	2	1	1	0	2	0
Number of Vlbwi	92	91	99	93	100	99	95	97
Rate	14%	3.3%	2%	1.1%	1%	0	2.1%	0

P<0.001.

Conclusions The introduction of a prophylactic oral nystatin administration policy was associated with a significant reduction in invasive fungal infection among high risk neonatal population.

1165 RECTAL SWABS: AN INCREASINGLY IMPORTANT COMPONENT OF NICU INFECTION SURVEILLANCE PROGRAMMES?

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Background and Aims Gram-negative bacteria present an increasing threat to NICU babies. Because the gastrointestinal tract is the primary colonisation site, we added rectal swabbing to routine admission and weekly screening of babies from September 2010. We consider here the impact of this strategy on clinical and infection control management.

Methods Rectal swabs were cultured for the following Gram-negative bacteria of interest (GNBi): Serratia; gentamicin-resistant &/or ESBL-producing Enterobacteriaceae; Pseudomonas aeruginosa (PA). Colonised babies were isolated, but were not treated with antibiotics unless clinically indicated.

Results GNBi (except PA) were isolated from 55 (2.6%) of 2101 admissions, September 2010–March 2012: 21 gentamicin-resistant Enterobacteriaceae; 9 ESBL-producing Enterobacteriaceae; 25 Serratia. 45 of the GNBi were detected in rectal swabs: in 38 (64.7%) rectal swabs were the first, and in 28 (33.3%) the only, culture-positive samples. Only one baby had GNBi infection (bacteraemia on the same day as a positive rectal swab).

There were 13 instances of 2–3 babies having the same bacterium within 7 days of each other. In one case, seven babies were found with Serratia over 7 days. PA results are not shown for the first 7 months, because of an exceptional event causing PA colonisation then. After April 2011 there were 5 cases (4 detected on rectal swabs: the only positive site in 3): there was no clustering of these cases.

Conclusion An unexpectedly high proportion of NICU babies had GNBi. The high frequency of patient-to-patient transmission suggests that rectal screening can be an important tool in controlling these bacteria.

1166 PERFORMANCE OF THE DEFINITIONS OF THE SYSTEMIC INFLAMMATORY RESPONSE SYNDROME AND SEPSIS IN NEWBORNS

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Background and Aims In 2002 the International Pediatric Sepsis Consensus Conference created definitions for the systemic

inflammatory response syndrome (SIRS) and sepsis adoptable for paediatric patients. We aimed to examine the applicability of the pediatric definitions of SIRS and sepsis to newborns in the diagnosis of early (EOS) and late onset sepsis (LOS).

Methods Retrospective cohort study including

1. all term newborns hospitalized within the first 24 hours of life and
2. all infants with episodes of suspected LOS with a corrected gestational age of >37 weeks at onset of LOS from 2004 to 2008.

Results Thirteen of 245 newborns included had culture proven EOS (5%) and 5 newborns had culture proven LOS. SIRS and sepsis criteria applied to 38% of EOS positive infants and to 100% of LOS positive infants. The two major diagnostic criteria white blood cell count and fever/hypothermia, of which at least one has to apply for fulfilling SIRS and sepsis criteria, had a sensitivity of 15% and 38% in diagnosis of EOS and of 100% and 80% in diagnosis of LOS, respectively.

Conclusions The definitions of SIRS and sepsis applied to all cases of culture proven LOS. However, the single diagnostic criteria were insensitive in diagnosis of culture proven EOS with thus wrong classification of more than 60% of all cases. An evidence based approach to find the appropriate criteria for defining EOS in newborns is needed.

1167 DOES MATERNAL INTRAPARTUM ANTIBIOTICS PROLONG THE INCUBATION TIME REQUIRED FOR BLOOD CULTURES TO BECOME POSITIVE FOR INFANTS WITH EARLY-ONSET SEPSIS?

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We hypothesize that maternal intrapartum antibiotic treatment delays the growth of organism in the blood culture obtained during the workup for infants with suspected early-onset sepsis (EOS). The aim is to determine if maternal intrapartum antibiotic treatment prolongs the time to blood culture positivity in infants with EOS.

Methods Single center, retrospective review of infants with blood culture-proven EOS over a 12 years period. EOS was defined by isolation of a pathogen from blood culture drawn within 72 hours of birth and antibiotic treatment for ≥5 days. The automated bacteremia detection was with BacTAlert Peds bottles.

Results Among 88 infants with positive blood culture; 38 were deemed to have EOS, and 50 were deemed contaminants. Seventeen with EOS did not receive intrapartum antibiotics and had blood cultures drawn for being symptomatic after birth. The other 21 infants received intrapartum antibiotics and had EOS workup primarily for maternal chorioamnionitis. The median (IQR) time to blood culture positivity in all 38 infants with EOS was 19.7 h (16.5 h, 22.5 h), and the organisms grown were: Escherichia Coli in 17, Group B Streptococcus in 10, Alpha hemolytic Streptococci in 6, and other organisms in 5. The median (IQR) incubation time to blood culture positivity was not different in infants who received intrapartum antibiotics compared to infants who did not (19.6 h, IQR 16 h–28 h, versus 19.5 h, IQR 17.2 h–21.6 h, p=0.7489).

Conclusion Maternal intrapartum antibiotic treatment did not delay the time to blood culture positivity in infants with EOS.

1168 MICROBIAL PROFILE BY BACTEC IN A LEVEL THREE NEONATAL INTENSIVE CARE UNIT IN RURAL WESTERN INDIA

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Background and Aims To study prevalent organisms causing sepsis, their sensitivity pattern and outcome in newborn babies with culture proven sepsis.

Methods Retrospective observation of hospital records of 4 years from November 2007 to October 2011 from 276 culture positive reports with their sensitivity to the antibiotics and measured outcome of the culture proven sepsis.

Results Most common blood culture isolates in decreasing order of frequency were Klebsiella (42.4%), Coagulase Negative Staphylococci (11.2%), Enterobacter (9.4%), Escherichia coli (9.1%), Pseudomonas (5.4%) and Acinetobacter (4.7%). Gram negative organisms were predominant in early and late onset neonatal sepsis as well as in inborn and outborn babies. Staphylococcus aureus and Enterococci were uncommon. Candida species were isolated in early onset sepsis and in babies weighing more than 1500 gm. Most gram negative organisms were resistant to ampicillin, gentamicin and cephalosporins. Sensitivity of amikacin, levofloxacin and piperacillin-tazobactam against Gram negative organisms ranged from 25% to 75%. Incidence of Methicillin Resistant Staphylococcus Aureus and Vancomycin resistant Enterococci was 33% and 20% respectively. Most Candida isolates were sensitive to antifungals. The most effective first line antibiotic combinations were amikacin with levofloxacin and amikacin with piperacillin-tazobactam. Overall survival rate in culture positive neonates was 43.4%.

Conclusion Gram negative organisms were the most common cause of neonatal blood stream infection with high degree of resistance to commonly used first line antibiotics. These findings would help judicious selection of antibiotics when initiating them before the culture reports are available.

1169 AMPICILLINE RESISTANCE EPIDEMIOLOGY IN NEONATAL SEPSIS IN THE ERA OF INTRAPARTUM ANTIMICROBIAL PREVENTION OF EARLY-ONSET GROUP B STREPTOCOCCAL (GBS) SEPSIS

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Objective To determine EOS ampicillin-resistant (AR) epidemiology and risk factors associated with ampicillin-resistant infection in newborns in the era of GBS prophylaxis.

Methods This was a retrospective analysis between 2002 and 2009, from microbiology laboratory database and hospitalization reports in one neonatal care unit. EOS was defined by a positive culture results for blood or cerebrospinal collection from infants aged ≤ 7 days, hospitalized in the university hospital of Poitiers. Data were analyzed using Chi(2), Student's test and binary logistic regression in univariate and multivariate models.

Results EOS was identified in 30 cases. Nineteen infants (63.3%) were preterm with GA ≤ 35 weeks. The overall mortality rate was 23.3%. *Escherichia Coli* (*E. Coli*) and *GBS* accounted respectively for 40% and 26.3% of the cases. Eighteen infants (62.1%) were infected with an AR pathogen. Among *E. Coli* isolated, 81.8% were AR. *E. Coli* was most frequently isolated in preterm infants, (10 cases; 52.6%), while *SGB* was predominant (7 cases; 63.6%) in term infants. EOS AR proportion was significantly higher among preterm than term infants (85% vs 10%, $p \leq 0.001$). In the AR group, GA was significantly lower, maternal age, intrapartum exposure to antibiotics and membrane rupture was higher, ($p < 0.05$). In multivariate models, GA ≤ 35 SA was an independent predicted factor associated with AR EOS (OR 28 [95%CI, 1.77–444.09]).

Conclusion *E. Coli* and AR EOS were predominant in preterm infants with GA ≤ 35 weeks. GA ≤ 35 weeks is an independent predicted factor of AR EOS.

1170 INCIDENCE OF NEONATAL SEPSIS AND/OR MENINGITIS

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Background and aim Infections are important cause of mortality and morbidity in the neonatal period. The purpose in this retrospective study was to identify the bacterial microorganisms caused neonatal sepsis and/or meningitis in the all newborns hospitalized in the Center of Neonatology, during the period of 2002, 2003 and 2004.

Method We used clinical, microbiological, laboratory and radiology methods.

Results 2086 infants were treated at the Center of Neonatology during the period of 2002–2004. Infants born at term (NT) were 1391, and infants born preterm (NPT) were 682. In the group of infants born at term In 528 with proven infections (omphalitis, cutaneous infections, mastitis, conjunctivitis, otitis media, infectio tracti urinary, pneumonia, diarrhea), 58 were diagnosed and treated for sepsis and/or meningitis (10.9%). Dominant pathogens responsible for sepsis and/or meningitis were: *Staphylococcus k.n* (41.3%) i *Staphylococcus Aureus* (19%), *E.Coli* (5, 3%), then with equally frequency *SGB*, *Streptococcus alfa hemolyticus rupe A*, *Streptococcus pneumoniae*, *Enterococcus*, *L. Monocytogenes*, *Klebsiella pneumoniae*, (each one 1.7%). Meningitis were proven in 16 TNB or 27.6 per cent.

In the group of infants born preterm In 98 PNB with proven infections (omphalitis, cutaneous infections, conjunctivitis, infectio tracti urinary, pneumonia, diarrhea), 30 PTB were diagnosed and treated for sepsis and/or meningitis (30.6%). Dominant pathogens responsible for sepsis and/or meningitis were: *Staphylococcus aureus* (26.6%), *Staphylococcus Co negative* (20.0%), *Klebsiella pnaeumonia* (20.0%), *Serratia marscensens* (13.3%). Meningitis were proven in 7 PNB or 23.3% per cent.

Conclusions Preterm infants have 3 fold higher incidence of serious neonatal infections sepsis and/or meningitis.

1171 SYSTEMIC CANDIDIASIS: IMPACT OF THE SELECTIVE PROPHYLAXIS WITH FLUCONAZOLE IN RN < 1500GR

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Introduction The invasive candidiasis supposes an important problem in NICUs with a direct mortality of 15–40%.

Aims and methods To describe the incidence of systemic Candida infection before and after the introduction of fluconazole prophylaxis in January 2009. Retrospective descriptive study of diagnosed patients with invasive fungal infection for 3 years in a level III hospital.

Results

Abstract 1171 Table 1

	2008	2009	2010
INCIDENCE<1000g	6/50(12%)	2/60(3.3%)	4/55(7.3%)
INCIDENCE<1500g	6/209(2.87%)	4/191(2.09%)	4/188(2.12%)
BIRTH WEIGHT<1000g	6	2	4
>1000g(<1500g)	0	2	0
GESTATIONAL AGE <28weeks	2	2	2
28–30weeks	3	2	2
>30weeks(<32weeks)	1	0	0
BLOOD CULTURES	6 C.parapsilosis	3 C.parapsilosis+1 C.albicans	2 C.parapsilosis+2 C.albicans
MORTALITY	2/6(33%)	0/4(0%)	2/4(50%)