

Study Design This prospective, descriptive and analytical study was conducted in the maternity unit Souissi - Rabat over a one year period from January 2010 to December 2010. Obstetric and perinatal records are used in this study. A sheet filled out for each newborn comprising the socio-demographic, obstetric, nursery data, monitoring and surveillance of pregnancy, delivery as well as neonatal data, the group of dead and alive patients were compared and analyzed.

Results There were a collection of 1000 births, 971 were alive and 29 dead on which 9 were stillborn and 20 died during the first 24 hours of life. There was a singleton pregnancy in 988 cases (98.8%), twins in 11 cases (1.1%) and triple in 1 case (0, 1%). The statistical analysis was used to determine the prognostic factors significantly associated with the occurrence of perinatal mortality namely the Apgar < 7 in 1 min and in 5 minutes ($p < 0.001$), the low birthweight ($p < 0.001$), the low gestational age ($p < 0.001$), dosage of the medication or plants during pregnancy ($p = 0.01$), the presence of congenital abnormalities ($p < 0.001$) and the multiplicity ($p = 0.002$).

1373 THE RELATIONSHIP BETWEEN BIRTHWEIGHT AND NEONATAL MORTALITY

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Background Neonatal mortality rate plays a role for almost 40 per cent of under-five child mortality, around the world. An understanding about the factors related to neonatal mortality is important to prevent neonatal deaths. Birth weight was known as one of a risk factors and many studies has been conducted.

Objective To determine the relationship between birthweight and neonatal mortality.

Methods We conducted a hospital-based case control in Dr. Kariadi Hospital Semarang, Indonesia. Data were taken from medical records of babies who fulfilled inclusion criteria and admitted from January 2010 until December 2011. Neonatal mortality was defined as a death of neonates (until 28 days). Birth weight was determined at birth with same scale and categorized in to some categories. Statistical analyses used: X^2 and logistic regression.

Results We obtained 278 babies (18% from totally babies) as a neonatal death as a Case Group and 280 babies as Control group from level 2 ward Kariadi Hospital. Between two groups respectively: Very low birth weight babies has (OR 0.5; 95% CI; 0.2–0.8). Low birth weight babies has (OR 1.5; 95% CI; 1.1–2.2), and appropriate birth weight has (OR 1.1; 95% CI; 0.8–2.5).

Conclusion Low birth weight babies was a risk factor for neonatal mortality.

1374 RISK FACTORS FOR NEONATAL MORTALITY RATE

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Background Neonatal mortality rate plays a role for almost 40 per cent of under-five child mortality, globally. An understanding about the factors related to neonatal mortality is important to guide the development of focused and evidence-based health interventions to prevent neonatal deaths.

Objective To determine risk factor for neonatal mortality.

Methods We conducted a hospital-based case-control study in Kariadi Hospital Semarang, Indonesia. Data was taken from medical records of babies who fulfilled inclusion criteria and admitted from January 2010 until December 2011. Neonatal mortality was

defined as a death of neonates (until 28 days). Risk factors were studied included: birth weight, gestation period, sepsis, type of delivery, length of stay (LOS) Statistical analyses used: X^2 and logistic regression.

Results We obtained 278 (18% from totally babies who admitted) neonatal deaths as a Case Group and 280 babies as Control group from level 2 ward Kariadi Hospital. We found between two groups prematurity has (OR=1.6; 95% CI:1.1–2.6), low birth weight in prematurity (OR=2.0; 95% CI:1.2–3.5) and sepsis in prematurity (OR=2.2; 95% CI:1.1–4.2) while other risk factors (birth weight, type of delivery, LOS) have lower points.

Conclusion Sepsis in prematurity was a risk factor for neonatal mortality.

1375 EARLY DIAGNOSTICS OF NECROTIZING ENTEROCITIS IN NEWBORN INFANTS UNDERWENT PERINATAL ASPHYXIA

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Background and Aim Defensins are antimicrobial peptides against gram positive and gram negative bacteria, fungus and viruses. The goal of the study is to reveal diagnostic fecal markers of necrotizing enterocolitis (NEC) among the various gestational age children who underwent perinatal asphyxia.

Methods The 95 newborn children have been included to study. Main group consisted of 960–4210 g birth weighing 69 infants with structural pathologies of central nervous system. Main group were classified in two subgroups: 40 preterm newborns (gestational age 30–37 weeks) with structural pathologies of central nervous system and 29 term babies with 38–40 weeks of gestational age. 26 children (14 premature and 12 in term infants) were included in control group. Stool for analyses was taken in 3-rd, 7-th, 15-th and 30-th days of life. The concentration of human β -defensin-2 (HBD-2) was determined by immune-enzyme analysis (ELISA Kit Immune diagnostic, Bensheim, Germany).

Results In premature babies NEC development associated with the 246.2–257.5 ng/g on 3-rd day; 173.7–206.9 ng/g on 7-th day; 161.5–188.9 ng/g on 15-th day; 155.2–167.4 ng/g on 30-th day of HBD-2 concentration. In term babies NEC developed in 246.2–268.5 ng/g on 3-rd day; 166.9–255 ng/g on 7-th day, 161.5–226 ng/g on 15-th day; 155.2–208 ng/g on 30-th day of HBD-2 concentration.

Conclusion Thus, definition of fecal HBD-2 in dynamics at newborn children underwent to perinatal asphyxia allows to diagnose NEC at the initial stage of development which gives the base to begin in time treatment.

1376 PROBIOTICS FOR PREVENTION OF NECROTIZING ENTEROCOLITIS IN PRETERM VLBW NEONATES-SYSTEMATIC REVIEW OF RANDOMISED CONTROLLED TRIALS. (UPDATE 2011)

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Background Systematic reviews indicate significantly lower risk of NEC and mortality, and shorter time to full feeds after probiotic supplementation in preterm (Gestation < 33 weeks) VLBW neonates.¹⁻³ Few more RCTs have been published since then.

Aim Update our systematic review of probiotic supplementation (Started within first 10 days, duration: 37 days) in preventing 3 stage II NEC in preterm VLBW neonates.

Method Standard Cochrane Neonatal Review Group search strategy was followed. CENTRAL, MEDLINE, EMBASE, CINAHL databases, proceedings (from 2009) of the Pediatric Academic Society meetings and Gastroenterology conferences were searched in September 2011.

Results Total 17 RCTs (N=3147) including recently published 5 new RCTs (N= 840) were eligible for inclusion in the meta-analysis. The risk of NEC [RR: 0.39; 95% CI: 0.27, 0.56; $p<0.00001$] and death (RR: 0.54; 95% CI: 0.41, 0.72) $p<0.0001$ was significantly lower and the time to full feeds was significantly shorter in the probiotic group (WMD= -2.29 days; 95% CI: -4.25, -0.32; $p<0.00001$). Risk of sepsis was similar in both groups (RR: 0.92; 95% CI: 0.80, 1.06). Subgroup analysis, according to baseline incidence of NEC (< 6% and $\geq 6\%$) also showed significant benefits of probiotics in both scenarios.

Conclusions The results of our updated Meta analysis continue to show the benefits of probiotic supplementation. We have now provided additional evidence of its benefits in units with high as well as low baseline incidence of NEC.

References (1,2): Deshpande et al, *Lancet* 2007 and *Pediatrics* 2010 (3): Alfaleh et al 2011.

1377 NECROTIZING ENTEROCOLITIS IN MULTIPLE GESTATIONS: COMPARISON WITH SINGLETONS

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NEC is one of the most important surgical disease in the first few days after birth. The aim of this study is to describe incidence of Necrotizing enterocolitis in multiple gestations compared with singletons, determining the neonatal outcome, risk factors and comorbid factors.

A retrospective review of the discharge records of multiple-gestation and singletons infants admitted into the neonatal intensive care units between January 2002 and January 2009 was performed.

The medical charts of all infants developing NEC or suspected NEC were reviewed and perinatal data recorded. The risk and comorbid factors of two main groups (developing NEC and not developing NEC) were analyzed.

During the study period we considered 409 infants from multiple gestations and 895 singletons. The percentage of infants with NEC in multiple gestation (18%) was higher than singleton prematurity at the same Hospital (4%) ($p<0.05$). Patients with suspected or advanced NEC showed longer time of meconium evacuation if compared to the others (mean 5 vs. 2 days, $p<0.05$). Patients who received bowel enemas starting from day 2 after birth did not develop NEC or advanced NEC ($p<0.05$). Mortality was associated with lower gestational age and lower Apgar score at 1 minute ($p<0.05$).

The analysis of multiple pregnancies showed that the incidence of NEC(stage II but Stage III) increased with respect to singleton pregnancies only when considered in relation to a higher prematurity rate.

1378 MECONIUM OBSTRUCTION IN VERY-LOW-BIRTH-WEIGHT PREMATURE INFANTS

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Aim Meconium obstruction(MO) is a clinical entity primarily affecting very-low-birth-weight(VLBW) premature infants. Intestinal obstruction symptoms in a VLBW infant who did not have evidence of necrotizing enterocolitis, did not have another mechanical or functional cause of obstruction defined as MO.

Method We report a series of 14 infants, whose clinical course is indicative of MO of prematurity.

Results One-hundred-thirty VLBW infants born between January 1, 2010 and December 31, 2011. Fourteen(11%) patients were diagnosed as MO. Mean gestational age and birth weight were 28.8 ± 2.6 weeks and 943.7 ± 238.3 g, respectively. Ninety-three percent of infants were delivered by C/S. Eight (57%) of infants had aforementioned prenatal risk factors for MO. The time of the passage of the first meconium was between 10-to-72 hours. All patients presented with distended abdomen and feeding intolerance. Abdominal plain x-rays showed multiple distended intestinal loops without air-fluid levels in all cases. Medical therapy, consisting of rectal enema with saline, if failed, enema with N-acetylcysteine was performed. Eleven of the patients underwent ileostomy surgery between postnatal age of 2-to-43 days. Nine patients (64%) survived, and the times to full enteral feeding was between day of life 13-to-81 days, the median length of hospital stay was 50 days (range 15–92 days) in these patients. One of the patients was diagnosed as Hirschsprung's disease in the follow-up period.

Conclusion VLBW infants with MO can be diagnosed based on their typical clinical and plain radiographic characteristics. Medical management is effective, whereas some cases may need surgically management as ours.

1379 TRANSFUSION-ASSOCIATED NECROTIZING ENTEROCOLITIS IN VERY LOW BIRTH WEIGHT PREMATURE INFANTS

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Background and Aims Our aim was to determine the relationship between red blood cell transfusion and necrotizing enterocolitis (NEC) in all admitted very low birth weight (VLBW) infants with or without transfusion.

Methods All VLBW neonates were categorized into five groups:

1. subjects that developed NEC < 48 hours after transfusion (n = 15);
2. subjects that developed NEC > 48 hours after transfusion (n = 31);
3. subjects that were never transfused but developed NEC, (n = 50);
4. subjects that were transfused but did not develop NEC, (n = 250);
5. and subjects that were neither transfused nor developed NEC (n = 301).

Results A group of 647 infants were enrolled in the study. Mean gestational age and birth weight of the patients were 29 ± 3.1 weeks and 1157 ± 237 grams, respectively. The mean age at the onset of NEC in the NEC groups were 20 ± 2.3 days, 12 ± 3 days, and 11 ± 2.6 days, respectively ($P<0.05$). The mean interval from the last transfusion to the onset of NEC was 16.8 ± 8.8 hours in Group 1 and 240 ± 50 hours in Group 2 ($p<0.05$).

Conclusion In this study, we sought to evaluate all VLBW infants, whether they received a transfusion or not. We suggest that transfusion associated NEC exists, but many other factors influence this multifactorial disease. The age of NEC onset was later in transfused versus non-transfused patients, whereas the interval between transfusion and NEC was shorter.