Conclusions:

To reduce the occurrence of birth defects, Sri Lanka should enhance the preconception care services and nutrition interventions for eligible females during preconception and antenatal periods. Measures to reducethe prevalence of gestational diabetes mellitusshould be strengthened and pregnant mothers with fever should be screened for possible infections and birth defects.

REDUCING THE INCIDENCE OF HYPOTHERMIA IN A TERTIARY LEVEL HOSPITAL NEONATAL UNIT: A QUALITY IMPROVEMENT INITIATIVE

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Introduction:

Neonatal hypothermia continues to be a common cause of neonatal morbidity and mortality worldwide. Approximately, 82% of neonates admitted to the Neonatal Intensive Care Unit (NICU) at the District General Hospital (DGH), Kalutara from the operating theatre (OT) had a temperature less than 36.5°C on admission. A point of care quality improvement (POCQI) project was implemented to address this issue.

Objectives:

To reduce the percentage of hypothermia among neonates (temp. < 36.5ºC) admitted to NICU from the OT, from 82% to 25% over a period of 6 weeks using Quality Improvement (QI) methods.

Method:

A team of 24 staff members from the Neonatal unit, Obstetric unit & the OT was formed. We identified the deficiencies in the existing process using a Fishbone analysis, the Pareto principle method and mainly through the process flow chart.

All neonates admitted to NICU from the OT were enrolled in the study. We used multiple Plan-Do-Study-Act (PDSA) cycles to test & adopt solutions to the problems identified. Thereby, the following changes were implemented in 11 PDSA cycles: improving staff awareness, maintaining the temperature of the OT and recovery room between 24^0C-26^0C, drying and wrapping the baby at the time of delayed cord clamping, using polythene bags or three pre-warmed towels to dry and wrap the babies and maintaining optimal body temperature during transport to the NICU. Data collectors were assigned for each PDSA cycle and discussions were held with the team members at the completion of each cycle and feedback was given.

Results:

During the study period of six weeks, 26newborns were admitted to NICU from the OT. A gradual reduction in the percentage of hypothermic neonates admitted was seen at the end of each PDSA cycle. Our target of reducing the percentage of hypothermic neonates admitted to the NICU from 82 % to <25%, over a period of 6 weeks was achieved (down to 20%) after 11 PDSA cycles.

Conclusions:

Several factors contribute to neonatal hypothermia. QI methods such as forming the right team, proper analysis of problems and addressing them systematically may prove helpful.

ESTABLISHMENT OF A NURSE LED COUNSELLING CLINIC TO IMPROVE SUCCESS OF VAGINAL BIRTH AFTER CAESAREAN SECTION: FINDINGS OF A PILOT QUALITY IMPROVEMENT PROJECT CONDUCTED AT DE SOYSA HOSPITAL FOR WOMEN

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Introduction

Vaginal birth after caesarean section (VBAC) is a safe choice of birth for women with previous single caesarean section(CS). However, a declining trend of VBAC has been noted in both resource rich and resource limited countries. Retrospective data showed that only 17.1% of all births had VBAC at De Soysa hospital for Women, Colombo. There are enough reasons to believe that VBAC is not encouraged by health practitioners despite compelling evidence of benefits. A structured nurse led counselling session (VBAC clinic) was commenced to encourage more women to attempt a vaginal delivery.

Objective

To assess the effectiveness of nurse led counselling in improving the overall VBAC rate in our setting.

Methodology

Women who attended the VBAC clinic from January 2020 to June 2020 were recruited in the study. A trained nurse conducted these counseling sessions which included information on advantages and disadvantages of VBAC and lower segment caesarean section (LSCS). In addition, patient information leaflets (Sinhala/Tamil/English) were given to participants. A semi-structured questionnaire was used to assess their decisions before and after the

interventions and their opinions, while the ultimate mode of delivery was documented at the time of delivery.

Results

Among 84 women recruited in the study 64 (76.2%) women completed the study. Their ages ranged from 21-42 years (mean 31.1); 30 (46.9%) were Sinhalese, 8 (12.5%) were Tamils and 26 (40.6%) were Muslims. Prior to VBAC counseling sessions only 31 (48.4%) were aware of the possibility of VBAC. Overall, 14 (21.9%) wanted to undergo VBAC, 14 (21.9%) had not decided the method and 36 (56.2%) wanted to undergo repeat LSCS prior to VBAC counseling. After the VBAC counseling sessions, 14/36 (38.9%) women who had previously decided to undergo LSCS changed their decision and proceed with a VBAC, while 11/14 (78.6%) of those who were undecided eventually decided to proceed with a VBAC. However, out of the 39 women with expected VBAC, only 21 (32.8%) ultimately had VBAC while the rest had LSCS. Overall, 45 (70.31%) women strongly agreed that they prefer this method of counselling, and 50 (78.1%) were satisfied with the VBAC counselling clinic.

Conclusion

Establishing nurse led VBAC clinics is a feasible and a successful method of counselling mothers in resource limited settings. Following this intervention, more women appeared to have accepted VBAC as their mode of delivery and there has been an increased trend of successful VBAC in this group. This pilot study suggests that training and empowering nurses/ midwives to educate women would improve success of VBAC.

DOES EXCLUSIVE BREASTING RESULT IN HIGHER FAT MASS IN INFANCY?

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Introduction

Breastfeeding exerts a protective effect against adult-onset-obesity. Formula-fed babies have been reported to have a higher fat-free-mass (FFM) in infancy whereas breastfed babies have been reported to have higher fat-mass (FM). Higher FM in infancy is thought to be an optimal phenotype related to the protection from adult-onset obesity. Duration of exclusive breastfeeding (EBF) has been related to the fat percentage (FP).

Objective

To describe breastfeeding indicators from 0-24 months in healthy term babies and explore the effect of breastfeeding on infant body composition (BC)

Method

Descriptive longitudinal study, 2015-2019, at Professorial Unit, De Soysa Hospital for Women. Healthy, term babies born to mothers, >18years of age were followed up monthly in the first year and two-monthly during the second year. Data was collected via 24-hour dietary recall and interviewer administered questionnaire. EBF and continued breastfeeding (CBF)were promoted and agreed plan documented in the participant's clinic-book, in the preferred language, at each visit, by the same investigator in addition to a 24-hour-hotline for trouble-shooting. BC was measured at 3,6,9,12,18 and 24 months based on the deuterium-dilution-method using saliva sampling. Ethics approval was obtained from Faculty of Medicine, University of Colombo. Data was analysed via SPSS(v27) and independent sample T test was used for comparison between babies who were EBF for 6 months(EBF6) vs EBF for shorter duration(EBF<6) and those who did vs didn't CBF at each age.

Results

Breastfeeding was initiated within the first hour and continued until discharge in all 374 babies recruited. EBF was seen in 96% at 1(n=47/49),2(n=141/147),3(n=132/138) months of age,92% at 4(n=131/142) and 5(n=107/118) months of age, 72% and 23% at 6(n=80/111) and 7(n=27/116) months of age respectively.CBF was seen in 96% at 12-months(n=79/84) and 73% at 24-months(n=36/49) of age.FM(p=0.045), FMindex(FMI)(p=0.022) and FP(p=0.009) were significantly higher at 24-months-of-age inEBF6. FM, FMI and FP were lower at 3-months but higher at 6,9,12 and 18 months (p>0.05) in EBF6 compared to EBF< 6. BC was not different between CBF-vs-no-CBF (p>0.05).

Conclusion

EBF6 had higher FM from 6-24 months whereas CBF did not affect BC, implicating that EBF may be more important in preventing adult-onset-obesity compared to CBF.

FIRST TRIMESTER FASTING HYPERGLYCEMIA AND RISK FOR LARGE FOR AGE NEONATES: A PROSPECTIVE ANALYSIS IN RURAL SRI LANKA

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Introduction

Maternal hyperglycemia is known to have adverse effects on pregnancy outcomes but its evaluation in early first trimester is lacking in low- and middle-income countries.

Objectives

Our objective was to evaluate first trimester fasting hyperglycemia and its association with adverse pregnancy outcomes.

Methods

A prospective analysis was done on a cohort of pregnant women recruited in third quarter of 2019 to Rajarata Pregnancy Cohort in Anuradhapura district. Fasting plasma glucose (FPG) was performed in all first trimester (T1) pregnant women excluding those with diagnosed Diabetes Mellitus (DM) and having large for gestational age (LGA) neonates was considered as the pregnancy outcome of interest. WHO criteria with IADPSG threshold for FPG value was considered for diagnosis of T1 gestational diabetes mellitus (GDM) and T1 DM.

Results

2709 pregnant women with mean age 28.0 years (SD 5.4) and median period of amenorrhea (POA) 8 weeks (IQR 2) were included. Mean FPG was 81.6 mg/dl (SD 11.1) and FBS had a significant but negative correlation (r= -0.9, p= 0.000) with gestational age. According to WHO criteria, prevalence of T1GDM and T1DM was 8.8% (237, 95%CI – 7.7-9.9) and 0.8% (21, 95%CI- 0.5-1.2) respectively. Lost to follow up in the study was 2.9% and 87% (n=2357) had live births and 10.1% had a pregnancy loss. 7% (n=159) of live births were LGA. Cumulative incidence of LGA neonates was 12.7, 9.5 and 5.1 per 100 pregnant women in GDM, DM and normoglycemic women respectively. Women with HIP in T1 had a significant twice the risk of having LGA neonates compared to normoglycemic women (RR=2.4, 95%CI- 1.7-3.5). Women with T1DM (RR= 2.4, 95%CI- 1.3-4.4) had a slightly higher risk than T1 GDM (RR= 1.8, 95%CI- 1.3-2.6) women compared to normoglycemic women. T1 FBS was significantly associated with both neonatal birth weight (r= 0.09, p=0.000) and birth weight centile (r=0.1, p=0.000).

Conclusion

Evaluation for hyperglycemia early in gestation identifies those at higher risk for having LGA neonates. Further research is necessary to evaluate association of T1 hyperglycemia with other pregnancy outcomes.

NEONATAL MULTI-SYSTEM INFLAMMATORY SYNDROME ASSOCIATED WITH SARS-COV-2 -A CASE REPORT FROM COLOMBO-SRI LANKA

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Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was reported as one of the causes of fetal inflammatory response syndrome (FIRS) (1) and multisystem inflammatory syndrome in neonate (MIS-N) (2). We report the first case of Multisystem Inflammatory Syndrome in Neonate (MIS-N) in Sri Lanka where the possible asymptomatic maternal infection resulted in severe neonatal multiorgan failure due to passive transfer of SARS-COV-2 IgG antibodies.

Case Report

A term baby boy weighing 4kgs was delivered via elective cesarean section due to past section. Mother was not vaccinated against SARS CoV-2 infection. The baby didn't need resuscitation at birth and was discharged home on the third day of life after establishing breastfeeding.

On day 8 of life, he presented with difficulty in breathing and poor feeding for 1day duration with clinical signs of heart failure evident by tachycardia, tachypnoea, and hepatomegaly. He was mechanically ventilated due to worsening respiratory distress. Echocardiography revealed moderate to severe biventricular dysfunction with ejection fraction of 37%.

With the establishment of multi-organ dysfunction (Acute renal failure, Acute liver failure, cardiac failure, and coagulopathy), clinical impression was changed towards MIS-N. Septic screening and C-reactive protein remained normal. Acute SARS-CoV-2 infection was excluded.

On the 4th day of admission, the diagnosis of MIS-Nwas confirmed, based on the presence of high titres of specific immunoglobulin-G for SARS-CoV-2 (negative PCR and IgM) with significantly elevated troponin-I(1.804ng/ml), D-Dimers(10770ng/ml), Lactate Dehydrogenase(4262U/L), Creatinine Kinase(1649U/L), Fibrinogen(29.8g/L), serum lactate (9.46mmol/L) and uric acid(919mmol/L).Maternal SARS-CoV-2 IgG was also positive.

He was treated according to the consensus local guidelines used for MIS in children (MIS-C) with intravenous immunoglobulin, methylprednisolone and prophylactic Enoxaparin followed by low dose Aspirin along with anti -cardiac-failure regimen.

Conclusion

MIS-N is an uncommon, novel presentation in neonate and the exact mechanism is still unknown with the possibility of neonatal hyperimmune response due to placental transfer of maternal antibodies against SARS-CoV-2 virus. During this pandemic, unusual or multisystem clinical involvement in neonates should raise the suspicion of MIS-N to decide on timely management to prevent morbidity and mortality.

COVID 19 IN NEONATE…...IS THERE A SIGNIFICANT TRANSMISSION FROM MOTHER TO THE OFFSPRING

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Abstract

Introduction

Covid 19 pandemic has created lot of concerns about perinatal transmission to the newborn and best practice care to provide the maximum safety for the newborn. Even though, the initial reports from China stated its not transmitted vertically, later reports from other countries including UK revealed that the vertical transmission is existent.

Objectives

To assess the risk of perinatal transmission of covid 19 from the mother to newborn and the clinical profile of newborns with positive covid RT PCR.

Method

Maternal RT PCR for covid 19 were checked on admission for confinement as a hospital policy. PCR of the newborn was checked within the initial 48 hours of age as if it is positive it is more likely to be due to vertical transmission. Data were collected anonymously by a medical officer by reviewing the bed head tickets after obtaining permission from the hospital administration.

Results

There were 62 pregnant mothers with Covid 19 acute infection, admitted for delivery within last six months and 63 neonates were born as one was a twin pregnancy. All were RT PCR positive for Covid 19 within one week prior to delivery. Six neonates (9.5%) needed admission to neonatal intensive care unit. There were two neonatal deaths (3.1%) one due to pulmonary hemorrhage and prematurity and the other one due to multi system inflammatory syndrome of newborn and secondary bacterial sepsis. Reason for admission to NICU were respiratory distress (n=4), prematurity (n=1), anaemia (n=1) and jaundice (n=1). Six neonates (9.5%) needed supplementary oxygen and out of them two needed mechanical ventilation and two needed non-invasive ventilation.

Out of the sample, PCR was not done in four neonates as mothers were discharged prior to the RT PCR results. In 58 neonates who were checked for covid 19 RT PCR, 11 (17.5%) were positive. Only four of them had symptoms related to covid 19, which were respiratory distress and requirement for oxygen.

Conclusion

Perinatal transmission of covid 19 to the newborn is commonly seen with the increasing number of maternal infections observed. However, most of the affected neonates are asymptomatic.

PREVALENCE OF NEONATAL COMPLICATIONS AMONGINFANTS WITH STRUCTURAL BIRTH DEFECTS IN GALLE, SRI LANKA

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Introduction:

Birth defects in children are considered as a significant risk factor of stillbirths, perinatal deaths and neonatal, infant and childhood morbidity and mortality.

Objectives:

The objective of this study was to describe the prevalence of neonatal complications in infants with non-genetic or non-syndromic structural birth defects (SBD) in Galle, Sri Lanka.

Methods:

A hospital-based descriptive cross-sectional study was carried out by examining 315 liveborn infants with SBD aged up to six months of age. Neonatal complications were examined using the medical records of the infants. Descriptive statistics were used to present data.

Results:

The sample consisted of 179 (57%) male infants. One infant had ambiguous genitalia. Fifty-six (17%) infants were born preterm (32-36 weeks: n=40, 71%; 28-31 weeks: n=12, 22%, <27weeks: n=4, 7%).Low birth weight was observed in 102 (32.4%) infants.
Cardiovascular defects (n=398, 64%), musculoskeletal defects (n=56, 9%) and central nervous system defects (n=52, 8.4%) were the commonest SBDs.

Two hundred and thirteen (68%) infants were found to have one or more complications during neonatal period. Difficulty in breathing (n=78, 24.8%), poor sucking (n=77, 24.4%), neonatal sepsis and infections (n=69, 22%) were the common complications observed. Reduced saturation (n=38, 12%), cyanosis (n=31, 10%) and neonatal jaundice (n=36, 11%) were also seen. Sixteen neonatal deaths (5%) were reported and eight (50%) of them were early neonatal deaths. For 111 (32.5%) infants of the sample, care was provided by the Special Care Baby Unit while Neonatal Intensive Care was provided for 52 (16.5%) of the infants.

Conclusion:

Structural birth defects seems to have a significant impact on morbidity and mortality in neonates and the affected neonates are supposed to depend on special care services. Sri Lanka should strengthen the birth defects prevention programmes in order to reduce the associated childhood morbidities and mortalities and the impact on health care delivery systems.

AN AUDIT ON ANTENATAL DETECTION OF FETAL ANOMALIES IN A COHORT OF NEONATES BORN WITH BIRTH DEFECTS NEEDING SPECIAL CARE BABAY UNIT ADMISSION

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Introduction

The global prevalence of birth defects is 2-3% of live births. Majority of malformations are multifactorial. Among the etiologies, single gene defects accounts for 15 -20% and the chromosomal abnormalities are 5%.Management of a baby with birth defects, is a complex clinical process targeted at correct diagnosis, prognostic evaluation, sorting appropriate treatment options on tailor-made basis and counselling.Antenatal diagnosis of such defects helps in anticipatory management thus creating an impact on the outcome. Furthermore, gradual psychological preparation of parents to accept babies with major birth defects is feasible when antenatal diagnosis is arrived.

Objective

To describe the antenatal assessment of babies born with major birth defects requiring special care baby unit (SCBU) admissions

Methods

An audit was carried out in the University Special Care Baby Unit of Colombo North Teaching Hospital. Neonates admitted with birth defects from 1st March 2020 to 28th February 2021 were selected. The antenatal details were gathered from the bed head tickets (BHTs). Descriptive statistics were carried out.

Results

Of the 2870 total live births in professorial obstetric unit, 19(0.6%) needed SCBU admission due to birth defects. Among them 11(57.8%) were males. Postnatal outcomes: 8(42.1%) early neonatal deaths, 5(26.3%) needed immediate surgical interventions, 6(31.6%) discharged home.

All babies with malformations who succumbed during early neonatal period were detected antenatally. Those were, multiple congenital anomalies- 2(25%), diaphragmatic hernia& other anomalies-; 2(25%), gross renal anomalies- 2(25%), antenatally confirmed trisomy 18-1(12.5%) and nonimmune hydrops fetalis- 1(12.5%). Detection rate of malformations among those requiring early surgical interventions was 40% and non-detected causes were gastrointestinal anomalies. Out of those who could be discharged home, 33.3% were antenatally detected to have minor multiple congenital anomalies and ones not detected were cleft lip/palatal defects.

Conclusions

Antenatal detection rate of major multiple anomalies was 100%. However, less than half of malformations which warranted early surgical interventions were diagnosed antenatally.

CAN THE PLACENTA PREDICT BODY COMPOSITION ININFANTS?

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Introduction:

Fetal nutrition depends on the ability of the placenta to transfer nutrients. Smaller babies have been described to increase the placental surface to enhance nutrient transfer. Larger placental surface has been associated with higher fat mass.

Objective:

To assess the relationship between placental size and infant body composition

Methods:

Body composition [fat mass(FM) and fat free mass(FFM)] was measured at 3,6,9,12,18 and 24 months based on the deuterium-dilution-method using saliva sample analysis, in healthy, term babies born to mothers, >18years of age. This is part of a descriptive longitudinal study, 2015-2019, at Professorial Unit, De Soysa Hospital for Women, Colombo. Placental weight, maximum diameter and maximum thickness was measured using SECA 334 infant scale and metal ruler. Ethics approval was obtained from Faculty of Medicine, University of Colombo. Data was analysed via SPSS v27 using independent samples T test, Pearson correlation and Multiple hierarchical regression, to determine whether placental parameters can predict body composition of infants, after ensuring that assumptions of normality, linearity, multicollinearity and homoscedasticity were met.

Results:

A total 236 placentas were examined. Mean and SD of placental weight, maximum diameter(MD) and thickness were 540±111g, 18.5±2.6cm and 2.2±0.6cm respectively. There was no significant difference in the weight (526g vs 550g, p=0.1), MD (18.3 vs 18.6cm, p=0.5) and thickness (2.3 vs 2.2 cm, p=0.5) of the placenta in girls and boys respectively. SGA babies' placentas had significantly lesser weight (440g vs 554g, p=0.001) and MD (16.8 vs 18.8cm, p-0.001) with increased thickness (2.3 vs 2.2cm, p>0.05) compared to non-SGA babies. There was no significant difference (p>0.05)in placental parameters with maternal diabetes, pregnancy induced hypertension, mode of delivery or parity. Placental thickness

was the strongest contributor for FM, accounting for a variability of 5.1% at 3 months [beta=0.244, p=0.029, r^2change=0.11, F(3,84)=3.602, p=0.017] and 10.8% at 18 months(beta=0.352, p=0.37, r^2change=0.18, F(3,29)=2.65, p=0.044) as well as the strongest contributor for FFM accounting for a variability of 14.5% at 18 months[beta=0.409, p=0.016, r^2change=0.198, F(3,29)=2.983, p=0.033]and 31.7% at 24 months[beta=0.602, p<0.001, r^2change=0365, p=0.009] compared to placental weight and diameter after controlling for maternal age, pregestational weight and BMI.

Conclusion:

Placental thickness can be used to predict body composition within the first 2 years of life.

IMPORTANCE OF MID PREGNANCY PSYCHOSOCIAL WELLBEING FOR PREGNANCY OUTCOMES

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Introduction:

Birthweight and preterm deliveries are outcomes as well as predictors of perinatal health and their effects are carried on even to adulthood. Identifying determinants of these outcomes are important to improve perinatal health.

Objectives:

To identify factors predicting the birthweight and preterm births among pregnant women in Ipalogama, Sri Lanka.

Methods:

For a prospective cohort, we invited all women in third trimester of pregnancy who were registered for the national antenatal care programme at the Ipalogama health Medical Officer of Health Area, Anuradhapura during 2017. Recruitment was done consecutively at antenatal clinics. Data was collected using a self-completed questionnaire and data extraction from pregnancy record. Outcome data were obtained from the mother's and child's records. A principle component analysis was performed on socio-economic factors and the factor scores were included in multiple logistic regression model to predict birth weight, and in hierarchical logistic regression model to predict preterm births.

Results:

Out of 593 enrolled, 530 were followed up after the delivery. 18(3.4%) women reported that on daily basis, their husband or another family member had had verbally/physically or sexually done things that made them feel unhappy/sad during the month prior to baseline assessment while 25(4.8%) reported they had such incidents several times a week.

Of all births, 61(11.5%) were preterm. Mean birthweight was 2912 g (SD-456.6g). Of the babies, 72(14.5%) had low birth weight while 46(9.3%) had higher birth weights ≥3500g.
With principle component analysis a two-factors; psychosocial well-being (Rating of care from husband, care from family, wellbeing on scales of ten, dominant moodin last week and Frequency of abuse loaded to this factor) and socio-economic status (Monthly income, Education level of husband and using biomass fuel loaded to this) were obtained.

According to the multiple linear regression (R Square 0.153, $p<0.01$) Prematurity (ß=0.27, $p<0.001$) BMI (ß=0.2, $p<0.001$) and psychosocial well-being (ß=0.09, $p=0.04$) were uniquely associated with birthweight. Hierarchical logistic regression (Chi-square =14.5, $p<0.02$, n=455) identified having diabetes (gestational/chronic)(OR 2.7, CI 1.01-7.28), hypertension (pregnancy-induced or chronic)(3.66, CI 1.20-11.11) and psychosocial wellbeing (OR 0.67, CI 0.51-0.87) as predictors of premature deliveries.

Conclusion(s):

Psychosocial wellbeing during pregnancy is an important predictor of both birthweight and preterm births.

OUTCOME OF VERY LOW BIRTH WEIGHT INFANTS IN A TERTIARY NEONATAL CARE CENTRE IN, COLOMBO SRI LANKA

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ABSTRACT

Introduction:

The number of preterm deliveries in Sri Lanka has increased during the last 2 decades and Sri Lankan data regarding their outcome is sparse.

Objectives:

The aim of our study was to describe short-term outcomes of very low birthweight (VLBW) neonates in Sri Lanka

Method:

A prospective observational study was conducted on all neonates weighing between 500g and 1500g born at De Soysa Hospital for Women, Colombo from 01.01.2020 – 30.06.2020 after getting informed written consent. Babies that were transferred in or out were excluded from the study. Ethical approval was obtained from Sri Lanka College of Paediatricians. Data was collected using an interviewer administered questionnaire and data recording form at different stages of hospital stay. Independent sample T test was used for comparison between <28 and 28-34 weeks gestation and <1000g and 1001-1500g birthweight.

Results:

Our study population contained48 babies withbirth weight between 500g-1500g, of which 47.9% were males and 52.1% were females. Mean, SD and range of gestational age (weeks) was 29.7±3.07 (24+6–33+3) and birth weight (grams)was 1026±354.6 (505-1490)Overall survival rate was 83.3%. Gestation specific mortality rates were 50% for <26 weeks, 22% for 26-29 weeks and 10% for 30-31 weeks. There were no deaths between 32-34 weeks. Mortality was 40%, 19% and 4.5% for birth weights 500-750g, 751–1000g and 1001-1500g. Respiratory distress syndrome (RDS) was seen in 83% of which surfactant was required in 58%. Non-invasive and invasive ventilation was used in 60% and 40% respectively. All ELBW and extreme preterm (EP) developed RDS and required surfactant and invasive ventilation. Other complications observed in VLBW babies including patent ductus arteriosus (37.5%), neonatal sepsis(29.1%), retinopathy of prematurity(18.7%), bronchopulmonary dysplasia(14.5%) intraventricular hemorrhage(14.5%), periventricular leukomalacia (4.2%) and necrotizing enterocolitis (4.2%) that were all significantly higher ($p<0.05$) in gestation <28 weeks and birth weight <1000g compared to 28-34weeks and 1001-1500g. Admission temperature was significantly lower in <28weeks gestation and <1000g birth weight group.

Conclusion:

VLBW had a survival rate of 83.3% in our study population. The EP and ELBW group had lower survival and a higher complication rate.

ASSOCIATION OF NON-ALCOHOLIC FATTY LIVER DISEASE AND LARGE FOR GESTATIONAL AGE NEONATES: A PROSPECTIVE COHORT STUDY

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Introduction and Objectives

Non-alcoholic fatty liver disease (NAFLD) is a well-recognized hepatic manifestation of metabolic diseases worldwide. NAFLD in pregnancyis associated with the development of adverse neonatal outcomes. However, the relationship between maternal fatty liver (FL) and neonatal birth weight has not been evaluated in Sri Lanka. In this study, we evaluated the association between NAFLD and the subsequent risk of large for gestational age neonates (LGA).

Methodology

A prospective cohort study was conducted among a random sample of pregnant mothers who registered in the national pregnancy care programme in Anuradhapura district during July-August 2019. An Ultrasound Scan (USS) was performed under the supervision of a consultant radiologist to diagnose FL during the first trimester. FL was categorized into grades 0- III. (FLG-0-III).All mothers who underwent USS were followed up till delivery. POA at delivery was documented. LGA was defined as birth weight equal to or more than the 90th percentile for a given gestational age. SGA was defined as birth weight equal to or less than the 10th percentile for a given gestational age. Mothers with hyperglycaemia during the first trimester were excluded from the follow-up.

Results

A total of 522 mothers in which FLG0, I, and II were 255(48.9%), 195(37.4%), and 72(13.8%), were followed up till delivery. The median gestational age at delivery was 39weeks (IQR-38-40). The mean birth weight of FLG-0, I, and II were 2921g (SD-442), 2958g (SD-430), and 3025g (452), respectively. The incidence of SGA in FLG-0, I, and II were 208, 164, and 139 per 1000 pregnancies, respectively. The incidence of LGA in FLG-0, I, and II were 43, 62, and 167 per 1000 pregnancies, respectively. FLG IIremained a significant predictor with more than five times the risk of LGA even after adjusting for blood sugar values.(Ad.OR=5.4,95%CI=1.9-15.3).

Conclusion

The FLG-IIis a preventable risk independent predictor of delivering LGA neonates. Therefore, early screening for FLG, suggestively with a dating scan, could minimize the adv