

Neonatology Abstracts

The survey of obvious congenital abnormalities' incidence among neonates born in Rasht, North of Iran in 2011

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Background: Congenital abnormalities are important causes of morbidity and mortality in neonates. This study was conducted to identify incidence of obvious congenital abnormalities and the relationship between these abnormalities and some important factors in live newborns in Rasht, Guilan province in 2011.

Methods: In this cross-sectional study, all live neonates born in maternity hospitals of Rasht were investigated for the presence of apparent congenital abnormalities. The data collection instrument was a questionnaire including the information of parents, neonate, and the abnormality and its type which was confirmed by a pediatrician or a neonatologist. Data analyzed with SPSS version 17.

Findings: Out of 1824 live neonates, 77 cases (4.2%) had congenital abnormalities. The most common abnormalities were musculoskeletal (37.7%), genital (16.9%), urinary (13%), cardiovascular (13%), and nervous system (10.4%). The following factors significantly associated with the increased incidence of congenital abnormalities: gestational age, route of pregnancy, special disease in mother and drug consumption during pregnancy. No significant relationship was found between abnormalities and sex, birth weight, age of parents, or consanguineous marriage.

Conclusion: The incidence of congenital abnormalities is high in this region. Therefore, it should be reasonable to get more attention with regard to the risk factors and the approach to organize them.

Keywords: Incidence, Obvious Congenital Abnormalities, Newborn

Bubble – CPAP vs. ventilatory –CPAP in preterm infants with respiratory distress

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Background: Application of continuous positive airway pressure (CPAP) is associated with benefits in terms of reduced respiratory failure, reduced complications and mortality in neonates with respiratory distress. Bubble CPAP (B-CPAP) and ventilator-derived CPAP (V-CPAP) are two of the most popular CPAP modes. However, not few studies have been performed to compare their differences and effectiveness. We aimed to determine whether B-CPAP and V-CPAP would have different survival rate and possible complications.

Methods: This prospective clinical trial performed on 50 neonates with respiratory distress to compare the lack of response to treatment and possible complications between two arms of treatment. Duration of oxygen therapy,

duration of hospital stay, and hospitalization costs are also compared.

Findings: We observed statistically significant increases in survival rate especially in the first 3 days with corresponding decreases in duration of oxygen therapy, hospital stay and hospitalization costs, in B-CPAP group.

Conclusion: Bubble-CPAP has the potential for being available at even lower cost than the current commercially available bubble systems used in this study, and seems to be superior to V-CPAP in terms of its effect.

Keywords: Continuous Positive Airway Pressure, Bubble CPAP, Ventilator-Derived CPAP, Respiratory Distress

Comparison of high-flow nasal cannula (HFNC) with nasal continuous positive airway pressure (NCPAP) in neonatal RDS managed with insure

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Background: CPAP is a noninvasive respiratory support, can produce continuous distending pressure. There are some complications with the use of NCPAP; nasal trauma, nasal snubbing, flaring of nostrils and columella necrosis. We hopping high flow nasal cannula generate distending pressure without complication of NCPAP.

Methods: Fifty four RDS patients of 28-34wks who were about to be extubated after INSURE method (intubated, surfactant administration, extubation) were systematize into two groups, group 1 received HFNC after extubation, group 2 received NCPAP. Short outcomes and some long outcomes compared between two groups.

Findings: Reintubation was higher in the HFNC (14 vs 4 P<0.004). The rate of IVH and ROP had no significant differences (IVH: 1 in HFNC vs 2 in NCPAP, and ROP: 2 in each group). Also duration of O₂ therapy (5.07 days in HFNC vs 4.56 days in NCPAP) and hospitalization were not statistically different (11.6 days in HFNC group vs 13.11 days in NCPAP group). There was no BPD or mortality in our patients.

Conclusion: Although clinicians are using HFNC for RDS and as a substitute for NCPAP after extubation or for apnea, there have been some concern about widespread use of these devices without enough studies.

Keywords: High Flow Nasal Cannula, Endotracheal Extubation, Nasal Continuous Positive Airway Pressure

Stem cell therapy for preterm infants

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Continuous improvements in perinatal care (education, regionalization, prenatal steroids and antibiotics together with exogenous surfactant and non-invasive ventilatory support) have allowed the survival of ever more premature infants making the task of protecting extremely immature organs from injuries increasingly challenging. Despite the

better understanding of the pathophysiology of preterm infants' diseases (oxidative stress/infection, inflammation) given the lack of effective measures to prevent or ameliorate these common serious diseases they remain a major cause of mortality and lifelong morbidity. Stem cell therapy have shown great promise in vitro and in vivo preclinical studies that they have multiple beneficial effect on outcome of extreme preterm injuries like bronchopulmonary dysplasia, periventricular leukomalacia, necrotizing enterocolitis, hypoxic-ischemic encephalopathy, retinopathy of prematurity, intraventricular hemorrhage in animal studies. A recent phase I clinical trial in a small group of extreme preterm infants who received one dose of intratracheal mesenchymal stem cells transplantation was safe and feasible with lower bronchopulmonary dysplasia severity. Another recent clinical trial showed the feasibility and safety of autologous cord blood cells for infants with hypoxic-ischemic encephalopathy who were cooled. At one year follow up 74% of cell recipients and 41% of concurrent cooled infants had a developmental score >85. These results are promising, but further phase II clinical trials of stem cell transplantation are warranted to assess the optimum type of stem cells dose, timing, method of administration and long term safety.

Keywords: Preterm Newborn, Stem Cell Therapy

Assessment of frequency of pneumothorax in neonates admitted to neonatal intensive care unit of Fatemeh hospital in Hamadan

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Background: Pneumothorax is more frequently observed in neonates (1–2%) than in older children (1.2–28 per 100000) and the rate can increase to up to 30% in patients who have concurrent underlying lung disease or who require mechanical ventilation. Pneumothorax results in longer hospital stays and even deaths in some cases. The aim of this study was to assess the frequency of pneumothorax in neonates admitted to neonatal intensive care unit of Fatemeh hospital in Hamadan.

Methods: This retrospective case series study was performed in 400 newborns in intensive care unit. Newborns were evaluated according to gestational age, birth weight, gender, history of resuscitation, mechanical ventilation and surfactant therapy, primary disease, episodes of chest tube, meconium aspiration and outcome of treatment.

Findings: Of 400 inpatients, 49(12.2%) were diagnosed with pneumothorax. No statistically significant differences were observed for gender, gestational age, or birth weight. Respiratory distress syndrome was the most common primary disease. There was a significant relationship between pneumothorax and need for mechanical ventilation, resuscitation and mortality.

Conclusion: In our study, relationship between pneumothorax and primary disease, need for mechanical ventilation and resuscitation is similar to other studies but this relationship between pneumothorax and surfactant therapy is in contrast

Keywords: Frequency, Pneumothorax, Neonates

A comparison between early and late breast milk fortification in preterm infants: A clinical trial study

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Background: As breastfeeding alone does not suffice for preterm infants, fortifiers are added when over 75 cc/kg/day breast milk is tolerated. Since limited recent studies have recommended early milk fortification, we compared the effects and complications of early and late fortification. **Methods:** This double-blind clinical trial was performed on 80 preterm infants (gestational age: 28-34 weeks, birth weight < 2 kg). The newborns were randomly divided into two groups to receive either early or late fortification. The incidence of feeding intolerance, necrotizing enterocolitis, sepsis, and osteopenia of prematurity were compared between the two groups.

Findings: The two groups were not significantly different in the frequency of feeding intolerance, sepsis, and necrotizing enterocolitis, and increments in weight, height, and head circumference.

Conclusion: Considering the similar benefits and side effects of early and late milk fortification, early fortification can also be used for preterm infants.

Keywords: Preterm Newborns, Human Milk, Fortification, Nutrition

UTI in infants less than one week of age presenting with jaundice

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Background: Jaundice is the most common clinical problem in the neonates. Increased bilirubin can be considered as the first sign of UTI before the other signs. Due to the association of UTI with jaundice during the first days of life, this study was performed to investigate the urinary tract infection in icteric infants younger than one week referred to Shahid-Beheshti hospital in Kashan, Iran.

Methods: This cross-sectional study was conducted on 384 icteric term neonates hospitalized in neonatal ward of Kashan Shahid-Beheshti hospital during 2012-2013. All of the infants were younger than 7 days with a serum bilirubin level higher than 15mg/ml. Urine culture was done using a bag and in the case of a positive result, the test was repeated by suprapubic method.

Findings: Twenty-five out of the 384 infant cases, 25 had positive urine cultures. On sampling by suprapubic method, 16 infants (4.2%) had urinary tract infection and 31.3% of them were 2-3 days of age and no other cause except UTI was found for their icterus. There was no significant difference in the sex and age between the groups with and without UTI.

Conclusion: It seems that icterus induced by urinary tract infection occurs not only in neonates older than 3 days, but also in infants younger than 3 days. Considering the results of this study, it is recommended that urine culture be done routinely for all of the icteric infants regardless of their ages.

Keywords: UTI, jaundice, infant

Evaluation of causes of neonatal mortality and related factors in Lorestan Province, Iran in 2013

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Background: Trying to save neonates and decrease the number of neonatal mortality are important for the world. In spite of advancing health and reducing infant mortality rate there wasn't so much progress in decreasing in neonatal mortality. Most of the neonatal death occurred in hospital and evaluation of causes mortality in neonates are important to planning for decreasing the number of death. This research had done to show the causes of neonatal mortality in lorestan province.

Methods: This was a retrospective study in all died neonates in lorestan province in 2013. Tools of study were paper filled by hospital file information. The data collected and analyzed with SPSS software.

Findings: The study included 335 neonates that died in 2013. 56% were males, 52% were urban, 94 % of mothers were housewife, 83.5% of maternal age were between 18-35 years. 93.5% neonatal mortality occurred in hospital, 4.5% died in their house and 2% died on the way to hospital. The most reason of death were prenatal events, prematurity (81%), and congenital anomalies (15%). Prematurity and twin pregnancy were the most causes of hospitalization.

Conclusion: Effort for enhancing quality and quantity of service improvement in NICU ward, prevention of premature labor and prenatal cares and genetic consult are the most valuable work we can do for reducing neonatal mortality rate.

Keywords: Neonate, Prematurity, Causes, Mortality, Lorestan

Prophylactic effect of two low doses of vitamin D in osteopenia of prematurity: a clinical trial study

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Background: Osteopenia of prematurity (OOP) is a preventable disease. Improved survival of these newborns is associated with an increased incidence of OOP. The purpose of this study was to compare the prophylactic effects of two low doses of vitamin D (200 and 400 IU/Day) on the clinical, biochemical and radiological indices of the rickets of prematurity.

Methods: In a randomized clinical trial, 60 preterm newborns selected with birth weight under 2000 g & gestational age < 37 weeks were randomly divided in two groups. 30 newborns received 200 IU/d vitamin D in group one and 30 ones received 400 IU/day in group two. On the 6th – 8th weeks of life, serum calcium, phosphate, alkaline phosphates, and 25 hydroxy vitamin D were measured and x-ray of left wrist and physical examination were performed.

Findings: Both groups had no difference in biochemical, radiological or clinical picture of rickets.

Conclusion: This study showed low dose vitamin D (200 IU/Day) is enough for prevention of the osteopenia of prematurity.

Keywords: Osteopenia, Prematurity, Vitamin D

Evaluation of related factors to preterm mortality rate in lorestan

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Background: Neonatal mortality rate is one of the most characteristic marker in enhancing health and hygiene in developing countries. Understanding the main reasons of neonatal mortalities are important for planning in health services to improve prenatal care. This study done to realize preterm mortality rate and related factors in lorestan, 1392.

Methods: This is retrospective study in 241 preterm neonatal death that occurred in lorestan in 1392. We collected data from patients files in hospital and questioning of mothers and analyzed with statistical methods.

Findings: In 241 preterm cases that died, 58% were male, 57% were urban, 98% were born in hospital. 68% were born with caesarean section. The gestational age of 17% of premature babies were between 34-37 weeks, 33% between 30-33 weeks, 50% were less than 30 weeks. 13.7% of premature neonate had congenital anomalous. 17% Of mothers had premature labor were under treatment for infertility. 37% of mothers had twin or multiple pregnancies. 97% of premature neonates passed away in hospital.

Conclusion: This study revealed that enough care of premature neonates and preventing premature labor are the main factors to decreasing premature neonatal mortalities. Enhancing the quality and quantity of NICU facilities are training expert personnel are most of things that health organization need. Encourage mother who have preterm labor to go to level 3 hospital.

Keywords: Neonatal mortality rate, Lorestan, premature

The risk factors for neonatal death in the Neonatal Intensive Care Unit in Asaliyan university hospital of Khorramabad

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Background: The mortality rate of neonates is an important measure of health, economic and cultural community. The purpose of this study was to investigate risk factors for neonatal mortality in the neonatal intensive care unit in Asaliyan hospital of Khorramabad, Iran.

Methods: This descriptive study was conducted at Asaliyan hospital of Khorramabad. All records of neonates admitted within the years 2006 and 2011 were assessed. Variables studied included gender, age at the admission time, route of delivery, weight, number of gravidity of the mothers, number of fetuses, mother's age, maturity, ventilation support, surfactant treatment, hospitalization period and Apgar score in fifth minute. The collected data were analyzed using SPSS computer software and T test.

Findings: Out of 1029 admitted neonates, 339 ones (32.9%) had died; neonates mortality 32.9 deaths per 1000 live births was calculated. Among the neonates who died 54/3% was immature ($P<0.012$), girls 38/9% ($P<0.001$), age at the admission in 38/1% was one day ($P<0.015$); 84/6% with weight less than 1,000 grams ($P<0.005$); the mean Apgar score 5 minutes in died neonates was 5/15+ 2/2(0.003); 42/6% of mothers with pregnancy less than 4 times ($P<0.003$), 36/8% was twin; maternal age less than

20 years in 51%; 40/2% with cesarean delivery ($P<0.015$); 46/3% of infants who were connected to a ventilator ($P<0.02$); 28/9% of the infants had received surfactant ($P<0.002$) and median duration of hospitalization of infants who died was 6/4 + 1/2 days.

Keywords: Neonatal Mortality, Risk Factors, Neonatal Intensive Care Unit

Effect of massage therapy on sleep behavior in low birth weight infants

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Background: Massage therapy has been recommended to promote growth and development of preterm and low birth weight. Some positive effects of massage include improvement of better sleep-wake pattern and quality of sleep and reduction of unsatisfaction and stress behavior in LBW infant. The aim of this study was to evaluate effect of massage therapy on sleep behaviour and weight gain in LBW infants.

Methods: This randomized controlled trial was conducted on 64 LBW newborns in the NICU at shahid sadooghee hospital in Yazd. All subjects randomly divided into two groups (a) massage and (b) no massage. The massages were given three times a day for 14 consecutive days by their mothers. Growth parameters of all neonates were measured at baseline, 14 days after starting the intervention, at one, two and three month. Sleep-wake pattern of newborns was followed by telephone to mothers along three months. **Findings:** There was significant difference in neonatal sleep-wake pattern and sleep duration after massage, between two groups ($p<0.05$). Infants in the massage group were more alert and active during the day in first month of life, and less awakening during sleep and less crying in the second and third month of life ($p<0.05$). Weight gain was significantly higher in massage group at two and three month of life ($p<0.05$).

Conclusion: Massage therapy is a safe non medical intervention that can promote the weight gain and could progress growth and development in preterm and LBW infants. Findings of this study suggested that massage improved weight and quality of sleep compared to infants without massage and may be a valuable approach to improve quality of sleep and reduce unsatisfaction in LBW infant.

Keywords: LBW, Massage, Sleep Pattern, Newborn

Gestational hypertension and low birth weight neonates

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Background: Low birth weight (LBW or birth weight < 2500g) is significantly related to reduce neonatal survival and postnatal morbidity. Prevention of LBW is the main concern of the public health sector in Iran. LBW neonates are sub-grouped according to the weight of the neonate after birth; neonates with a moderately low birth weight (MLBW) weigh 1500–2499g, very low birth weight (VLBW) infants weigh 1000–1500g and those with extremely low birth weight (ELBW) weigh <1,000g. Fetal

growth and weight of newborns are influenced by many factors. Gestational hypertension or pregnancy induced hypertension (hypertension without proteinuria or other signs/symptoms of preeclampsia that develops after 20 weeks of gestation, and should be resolved by 12 weeks postpartum) is a risk factor for LBW neonates. This study examined the prevalence pregnancy induced hypertension for LBW in Yazd, a central city of Iran.

Methods: In a cross-sectional study, we evaluated all births that were registered in all the maternity hospitals in one year in Yazd, Iran. LBW neonates were compared with neonates whose birth weight exceeded 2500 g.

Findings: The overall prevalence of LBW was 8.8 percent and 1.5%, 7.5% and 91% were ELBW, VLBW and MLBW respectively. Multivariate analysis showed that pregnancy-induced hypertension was found to be risk factors for LBW (Odd Ratio=1.5, 95 percent CI=1.2–2.2).

Conclusion: Screening for high-risk pregnancies, monitoring of blood pressure of pregnant women during pregnancy and making provisions for attentive prenatal care and facilities are essential to reduce the incidence of LBW.

Keywords: Low Birth Weight, Gestational Hypertension, Pregnancy Induced Hypertension

Early life nutrition

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What is Early Life Nutrition (ELN)? It is the nutrition from pre-conception to 3-5 years. The first 1000 days refers to the period from the moment of conception to when a child is aged 24 months. Why the first 1000 days and ELN are so important? Providing the right nutrition is essential to ensure optimum development of infants. There is also growing scientific evidence that shows that early life nutrition also influences susceptibility to obesity and other non-communicable diseases (NCD's) such as diabetes later in life. What is Early-life Nutritional Programming (ENP)? The concept that providing the right quantity and quality of nutrients at the right time supports optimal development/programming of the body's system and life-long health. This can be achieved through physiological (metabolism, brain and immune system) and behavioral (feeding habits, taste preferences) programming. The health of mothers before and during pregnancy, and nutrition and growth in fetal and early post-natal life, determine the structure, function and adaptive capacities of key organ systems. As a consequence, nutritional imbalances early in life can have long lasting programming effects on later health and risk of disease. The environment has much more impact on your health in later life than your genes. It has been estimated that at most 20% of lifelong health can be explained by inherited genes. This means that at least 80% of disease risk in later life is due to the environment, including nutrition and life style. How does it work? There are a number of mechanisms by which this might occur. There is growing evidence from the field of epigenetics that environmental factors, including nutrition, can trigger certain gene expressions which can influence our risk of developing non-communicable diseases such as diabetes and obesity later in life.

The first 1000 days offer a unique window of opportunity to build long-term health. The right nutrition during this critical period really matters.

Keywords: Early Life Nutrition, Non-Communicable Diseases First 1000 Days

Comparison of congenital abnormalities of infants conceived by Assisted Reproductive Techniques versus infant with normal conception in Tehran

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Background: In many countries, 1% to 3% of newborn infants are conceived by Assisted Reproductive Techniques (ART). Despite the success of ART, there are concerns regarding congenital anomalies' risks due to some factors among these infants. We report our experience to determine whether use of ART is associated with an increase in major congenital abnormalities or adverse pregnancy outcomes.

Methods: We performed a historical cohort study of Major Congenital Abnormalities (MCA) in 978 births from January 2008 to December 2010. In our study, exposed group (326 infants) was ART's infants and unexposed group (652 infants) was NC's infants and outcome measured was major congenital anomalies.

Findings: We found 56 infants with major congenital abnormalities, these included 29 NC infants (4.4%) and 27 ART infants (8.3%). In comparison with NC infants, in ART infants reported 1.94-fold increased risk of MCA which is statistically significant. After adjustment for sex, maternal age, stillbirth, abortion and type of delivery, we found a little difference in OR (OR=2.04, 95% CI: 0.92→4.5).

Conclusion: Our study shows an overall increase in major congenital abnormalities after ART (8.8%) compared with NC (4.4%), with OR crude= 1.94 and OR adj=2.04 that is consistent with other studies in this case. We also found evidence of a difference in risk of MCA between IVF and ICSI with an adjusted RR of 2.73. Musculoskeletal (2.8%) and urogenital (2.3%) abnormalities were the most reported MCAs in ART's infants according to Organs and systems classification. Musculoskeletal, cardiovascular and endocrine abnormalities have been reported in ART infants more than NC infants. Taking everything into consideration, the cause of higher prevalence for abnormalities in ART infants may be due to role of genotype and other unknown factors in these infants.

Keywords: Infants, Assisted Reproductive Techniques, Congenital Anomalies

Eagle – Barrett syndrome; a case report

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Background: Eagle-Barrett syndrome is a rare congenital anomaly of uncertain etiology almost exclusive to males. It is characterized by the triad of absent or incomplete abdominal musculature, undescended testes, and urinary tract abnormalities. A male newborn with above characteristics triad hospitalized in our NICU. Diagnosis of Eagle – Barrett Syndrome has been made. He was second child of none-relative parents. Abdominal examination revealed huge distension with thin and wrinkled skin protruding most prominently in the right side with visible

bowel loops. Both kidneys were palpable. He had bilateral cryptorchidism. Lower limbs examination showed clubfoot abnormality of right foot. Cardiac examination showed a small ASD. Ultrasound imaging showed moderate bilateral hydronephrosis with bladder trabeculation with gross dilatation pelvicalyceal system of left kidney and distended bowel loops.

Keywords: Eagle- Barrett, Syndrome, Newborn

The effect of zinc sulfate on growth of preterm infants

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Background: Zinc is a micro element with an important role in the children growth. Neonates receive the major part of zinc during the third trimester of pregnancy; so preterm infants don't have enough zinc storage.

Methods: This study was done on 106 preterm neonate with gestational age of 28-36 week and weight between 1000-2500gr who born in Imam Reza & Motazedi hospitals in Kermanshah city. They were randomized to two groups. Group 1 received 3 mg/day zinc sulfate for 6 months but the second group did not received zinc. Both Groups were visited monthly and measured for weight, length and head circumference.

Findings: The mean age of group 1 and control group was (32.9±2.2 week) and (32.7±2.1 week) and at the end of month 6, mean weight in them was (6861.3± 810.3 gr) and (5118.7±534.7gr) (p<0.001), respectively. Significant difference in length and head circumference wasn't found until end of the second month but from third month, they were significant. The mean of length in zinc group was (59.8±3.8 cm) and in control group was (57.0±.5cm) (p< 0.001) and the mean of head circumference was (41.4±.0cm) and (39.5±2.5cm) (p<0.001).

Conclusion: No serious adverse effect was noted related to zinc supplementation therapy. Zinc supplementation (3mg) daily for preterm infants for 6 months have significant effect on growth.

Keywords: Infant, Preterm, Zinc Sulfate, Growth

Prevalence of congenital malformations in Dezful - 2012

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Background:The purpose of this study to determine the prevalence of congenital malformations in Dezful -2012. **Methods:**This cross-sectional study was carried on live births as target population in dezful in 2012. All newborns were examined by pediatricians during first 24 hours and supplementary paraclinical examinations were prescribed on every newborns who had congenital malformations.

Findings: Out of 4235 live birth, 49.2% (2083) were female. Total prevalence of congenital malformations were 3.21% (95%CI 2.68-3.71). In each group of females and males, the prevalence of congenital malformation was 2.56% (95%CI 1.89-3.22) and 3.88% (95%CI 3.06-4.71) respectively and males had significantly more congenital malformations (p<0.017). Overall, the most common congenital malformations were musculoskeletal 0.97%

(%95CI 0.67-1.26)), cardiovascular 0.71% (%95CI 0.46-0.96) and CNS 0.12% (%95CI 0.01-0.22). Metabolic galactosemia was considered as rarest congenital malformation observed in one male.

Conclusion: Prevalence of congenital malformations are considerably high in Dezful, so declining and preventing of these malformations should be a priority of health system policies in this city.

Keywords: Congenital Malformation, Cross-Sectional Study, Prevalence, Dezful

Short term outcomes of the babies born with an abnormal umbilical cord blood gases

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Background: Umbilical arterial blood gases (UABG) analysis is more objective than the other methods for neonatal outcomes. Acidemic neonates may be at risk for unfavorable outcome after birth, but all babies with abnormal ABG analysis do not always have poor outcome.

This study was carried out to determine the short term outcomes of the babies born with an abnormal ABG.

Methods: In a cohort prospective study, 120 high risk mother-neonate pair at Ayatollah Rohani Hospital, Babol, Iran enrolled and UABG was taken immediately after birth. All neonates with an umbilical cord PH less than 7.2 considered as case and all consecutive neonates with an umbilical cord blood PH more than 7.2 as control group. Outcomes such as need to resuscitation, admission to newborn services and/or NICU, seizure occurrence, hypoxic-ischemic encephalopathy (HIE), delay to commence oral feeding and length of hospital stay followed and compared between two groups. A p-value less than 0.05 was considered being significant.

Findings: Comparison of short term outcomes between normal and abnormal ABG groups were as the following: need for advanced resuscitation 4 vs. 0 (p<0.001), NICU admission 16 vs. 4 (p<0.001), convulsion 2 vs. 0 (p<0.496), HIE 17 vs. 4 (p<0.002), delay to start oral feeding 16 vs. 4 (p<0.001), mean hospital stay 4 vs. 3 days (p<0.001). No babies died in both groups of study.

Conclusion: Low umbilical cord PH immediately after birth can be used as prognostic factor for unfavorable short term outcomes in newborns.

Keywords: Assessment, Patient Outcome, Umbilical Cord Blood, Infant, Newborn, Blood Gas Analysis