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ORAL PRESENTATIONS

O – 0001 | ORAL | PUBLIC HEALTH

MATERNAL DEATH FROM HEART DISEASE AMONG RESIDENTS AND MIGRANTS IN WUHAN, CHINA IN 2000-2016

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Abstract:

Objective: Heart disease has been the leading cause of maternal death in developing countries. Although China has made a great effort to reduce maternal mortality ratio, it also has a large in-migrating population, which has made control of maternal mortality a major challenge. This study analyzed major factors of maternal death due to heart disease, and explored the difference of maternal mortality between residents and migrants in Wuhan.

Methods: A retrospective study was conducted to analyze 40 cases of maternal death related to heart disease in Wuhan from 2000 to 2016.

Results: The ratio of maternal death due to heart disease in Wuhan increased during the seventeen-year period (from 2000 to 2016). In 2016, the constituent ratio of maternal death due to heart disease among all dead of permanent pregnant women rose to 12.50% and the constituent ratio of those among migrant population rose to 40.00%. The top three causes of heart disease-related deaths were congenital heart disease (42.50%), peripartum cardiomyopathy (25.00%), and rheumatic heart disease (17.50%). For those who were migrant population, living in rural area, lower income, less education and poorer prenatal care might have higher risk for the maternal death.

Conclusions: Maternal death related to heart disease had been an extrusive problem for pregnant women in Wuhan. Present study indicated improving the health care and management for pregnant women, strengthening the training of medical staff, promoting maternal educational level, and increasing household income were important interventional strategies to reduce the maternal death further.

Key words: Pregnancy with heart diseases; maternal death; congenital heart disease; migrant population

O – 0002 | ORAL | ART AND THE COMPLICATIONS OF PREGNANCY

IMMUNOPHENOTYPIC PROFILES OF PERIPHERAL BLOOD LYMPHOCYTES IN WOMEN WITH INFERTILITY AND ANTIPHOSPHOLIPID ANTIBODIES

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Abstract:

The management of women with antiphospholipid antibodies (aPL) who are not fulfilled the revised Sapporo classification criteria is very controversial. APL-positive women with primary infertility do not have obstetric history, but they may have higher risks of miscarriage and IVF failures.

Objective: The aim of this study was to analyze the immunological characteristics of nonpregnant women with aPL and infertility compare with healthy multiparous non-pregnant women.

Methods: We evaluated 128 aPL-positive women with infertility and 27 healthy multiparous non-pregnant women as control. 58,6% women (75/128) had primary infertility. 32% (41/128) women had 1 or more miscarriage. No women had previous thrombosis. All women were tested for lymphocyte subpopulation in peripheral blood.

Results: The aPL-positive women had significantly lower rates of absolute (0,008 (0,006;0,013); 0,014 (0,01;0,025), p<0,001) and relative content (4,83±1,63; 5,89±1,46, p<0,05) of T-regulatory lymphocytes and significantly increasing the relative content of B-lymphocytes CD19 + (11,6 (9,7;13,78) and 9,85 (8,43;11,78), p<0,05) compared with multiparous healthy women. Also women with aPL had significantly lower rates of absolute content of CD3 + lymphocytes (1,29±0,46 и 1,59±0,49, p<0,05); CD3+CD4+ lymphocytes (0,79±0,29; 0,95±0,33, p<0,05); CD3+CD8+ lymphocytes (0,46±0,19 и 0,55±0,18, p<0,05) and the relative content of NK-cells CD3-CD16/56 (0,2±0,08 и 0,34±0,28, p<0,05) compared with healthy control women.

Conclusion: Despite the absence of full criteria of APS in aPL-positive women with infertility, when comparing their immune status with a group of healthy female donors there was revealed differences that could affect the outcomes of IVF and pregnancy. Further research is needed to study the outcomes of IVF and pregnancy complication rates in women with aPL.

Keywords: antiphospholipid antibodies, infertility, lymphocyte subpopulation

O – 0003 | ORAL | ART AND THE COMPLICATIONS OF PREGNANCY

INFLUENCE OF EMBRYO TRANSFER DAY ON PREGNANCY OUTCOMES

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Abstract:

Objectives: To compare reproductive and pregnancy outcomes between cleavage-stage and blastocyst embryotransfers, as well as to find potential relationship between pregnancy complications and embryos in different stages of development, thus providing valuable information for selecting better day for embryotransfers.

Methods: This was a retrospective study, conducted at Remedika General Hospital-Skopje. The study included 958 women aged <36, who underwent long protocol of controlled ovarian hyperstimulation, after which ultrasound-guided oocyte retrieval was performed, followed by ICSI and embryotransfer. Patients were divided into 2 groups according to stage of the embryo transferred (cleavage stage-CS on day 3 and blastocyst stage-BS on day 5). Only excellent and good quality embryos, according to Hardarson's scoring system, were selected for transfer. We compared how embryonic stages influence reproductive / pregnancy outcomes and complications, considering $p<0.05$ as statistically significant.

Results: Clinical pregnancy rate/ET was not significantly higher for BS (57%) compared to CS (55%); however, there was significant difference in implantation rates between CS (32.6%) and BS embryos (38.9%), in favor of blastocyst transfer. We noticed significantly higher % of negative outcomes, pregnancy complications in cleavage stage group, with regards to biochemical pregnancy rate (positive beta-HCG without gestational sac) of 8% vs. 6.3%, missed abortion rate (until 12^{th} gw) of 4.1% vs. 2%, second-trimester abortion rate (12^{th}–26^{th} gw) of 4.2% vs. 3%, and singleton preterm deliveries of 19.7% in CS vs. 10% in BS group. Also, there was significant difference in occurrence of monozygotic twins: 0.5% for CS vs. 2.9% for BS group. Interestingly, CS embryotransfer significantly favored female, as opposed to BS which favored male newborns.

Conclusions: Transfers of blastocyst generate higher clinical pregnancy rates whilst favoring male sex and monozygosity in twins, whereas cleavage-stage embryotransfers produce significantly higher miscarriage and preterm delivery rates.

Keywords: embryonic stage, embryotransfer, pregnancy outcome

O – 0004 | ORAL | ART AND THE OFFSPRING DEVELOPMENT

NEONATAL OUTCOMES AFTER IN VITRO FERTILIZATION PREGNANCIES–REGIONAL'S CENTER EXPERIENCES

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Abstract:

Objectives: In the last 30 years application of assisted reproductive tehnology enabled couples with the problem of infertility to have offspring. In the beginning, these techniques were applied in highly specialized health centers, and then the application was extended to smaller health centers. In the General Hospital Valjevo, 5 years ago, the Center for in vitro fertilization was established. The aim of our study is to analised neonatal outcomes from pregnancies concieved underwent in vitro fertilization (IVF).

Materials and metodhs: Among 50 women delivered between september 2013 and june 2017 in our centre, 29 (44%) were older than 35 years and 15 (22,7%) had twin pregnancies. Maternal morbidity was present in 20 (40%) mothers (50% present in twin pregnancies), mostly pregnancy induced hipertension, gestation diabetes mellitus, trombophilia and hypotireosis. Most of pregnant women (91 %) were deliveried by elective caesarean section (CS), only one was emergency CS with twins and 6 women with singleton pregnancies were deliveried vaginaly.

Results: We conducted retrospective study on 67 medical records of newborns delivered from IVF pregnancies. Neonatal outcomes were defined as: singleton or twin, gestational age (g.a.), birth weight, perinatal asphyxia (PA), respiratory distress syndrom (RDS), hyperbilirubinemia, congenital anomalies, admission to the neonatal intensive care or reffered to tertiary center. The descriptive statistic was applied.

Results: We had 1,4 % newborns delivered from IVF pregnancies.Among them 34 (50,75 %) were twins and 33 singleton. More than half newborns (50,75 %) were well term newborns. Prematurity occured in 20 (29,8%) newborns, 90 % in twins babies; 12 newborns were late preterm (8 twins and 4 singleton). One newborn from single pregnancy was extreme premature (24 g.a.) with very low birth weight . Low birth weight was present in 26,9 % (17 twins and 1 singleton newborn). Intrauterine growth retardation was present in one pair of twin and five pair of twins were diskorkodant. One singleton was large for gestational age. PA was present in 15 newborns, 80% of them were twins babies. RDS was present in 9 twins newborns (26,8%) and in one premature singleton and transitory tachipnea in 3 well term babies. Major anomalies were found in two, and minor in 10, hyperbilirubinemia in 10 newborns. Six newborns were reffered (8.9%) to tertiary center dye to major congenital anomalies severe PA and extreme prematurity. In two babies from frozen thawed embryo policitemia was noted.

Conclusion: Our results were in acordance with literature date from other centers in Serbia. Most newborns were perfectly healthy. The most prominent morbidity were PA, RDS and low birth weight.

Key words: in vitro fertilization, twins, low birth weight

O – 0005 | ORAL | ART PREGNANCIES

CONGENITAL ANOMALIES IN NEWBORNS FOLLOWING ART FROM 2005 TO 2012 AT MICROCITEMICO HOSPITAL, CAGLIARI

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Abstract:

Background. The aim of this study was to examine the association between fetal anomalies and assisted reproduction techniques (ART) in babies born following ART cycles compared to those conceived spontaneously in infertile couples.

Methods. A retrospective analysis was conducted to compare all clinical pregnancies obtained in 2005-2012 in our ART centre from intrauterine inseminations (IUI), in vitro fertilizations (IVF), intracytoplasmatic sperm injections (ICSI) and frozen-thawed embryo-transfer (F-ET) with infertile patients who conceived spontaneously in the same time period. Congenital anomalies were classified following the European Surveillance of Congenital Anomalies classification.

Results. From 2005 to 2012 we performed 8120 ART cycles obtaining 1780 pregnancies with 1460 live births of which 1,3% presenting malformations. In comparison of naturally conceived infants in infertile couples, ART ones showed no significant difference for fetal anomalies. The overall rate of major congenital anomalies in ART was smaller when compared to those ones recorded by the EUROCAT.

Conclusions. Other studies have showed no difference in fetal malformations between ART babies and naturally conceived ones in infertile couples. We found no evidence of increased congenital anomalies risk associated with ART. Further research is required to examine risks from factors that could increase the rate of birth defects, for example: maternal age, cause of infertility and time to pregnancy, environmental exposures.

O – 0006 | ORAL | NEONATAL HEALTH

MEASUREMENT OF LUNG VOLUME BY CHEST COMPUTED TOMOGRAPHY IN NEONATES AND INFANTS UNDER SEDATION AND MUSCLE RELAXATION

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Abstract:

Objective: This study investigated whether meaningful lung volume measurement using chest computed tomography (CT) can be performed in neonates and infants using breath-hold CT under sedation and muscle relaxation.

Methods: This study measured lung volumes using chest CT data in one patient with a congenital right diaphragmatic hernia and 9 normal control subjects without lung parenchymal disease under sedation and muscle relaxation with a positive end-expiratory pressure (PEEP) of 0 cmH2O (ZEEP).

Results: In the normal control group, right lung volume was 24.9±8.1 (20.8-32.4) cm3/kg, left lung volume was 23.6±9.6 (16.7-31.9) cm3/kg, and total lung volume was 48.5±16.0 (39.8-64.4) cm3/kg. In the patient with a right diaphragmatic hernia, right lung volume was 9.2 cm3/kg, left lung volume was 33.3 cm3/kg, and total lung volume was 42.6 cm3/kg.

Conclusion: In the patient after repair of congenital right diaphragmatic hernia, the volume of the right lung with possible hypoplasia was markedly below the normal value range, and the volume of the left lung with hyperinflation exceeded the upper limit of normal value. These findings suggest that measurement of lung volumes by chest CT under sedation and muscle relaxation may enable quantitative evaluation of the severity of lung diseases such as pulmonary hypoplasia and bronchopulmonary dysplasia (BPD) even in neonates and infants.

O – 0007 | ORAL | BRONCHOPULMONARY DYSPLASIA

ROLE OF NON INVASIVE POSITIVE PRESSURE VENTILATION IN PREVENTION OF BRONCHOPULMONARY DYSPLASIA IN EXTREME PRETREM NEONATES

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Abstract:

Introduction: Bronchopulmonary dysplasia (BPD) is the leading cause of mortality and morbidity in extremely preterm neonates. It is an important cause for prolonged hospitalization in preterm neonates. Mechanical ventilation associated lung injury and inflammation is one of the important factors leading to BPD.CPAP is known to be associated with high failure rate especially in extreme premature babies less than 28 weeks who eventually require mechanical ventilation. Non-invasive positive pressure ventilation (NIPPV) has been used in preterm neonates and its efficacy has been evaluated in few studies. Recently there has been increasing use of non invasive synchronised positive pressure ventilation (NIPPV) in management of preterm babies.

Primary Objective: To study the effect of NIPPV on the incidence of BPD in preterm neonates less than 30 weeks.

Secondary objective: To study the effect of NIPPV on extubation failure rates, duration of invasive ventilation and duration of hospitalization.

Material and Methods. The study will be conducted at Princess Anne hospital, Neonatal unit, Southampton. It is a retrospective study. Data will be collected from the records of all the babies admitted in the neonatal unit who were born below 30 weeks of gestation during January 2016 to December 2016. A pre structured proforma will be used to record the clinical details. Dragger ventilator VN 500 is being used to deliver NIPPV. Details of extubation episodes, type of respiratory support after extubation, episodes of extubation failure and reason for extubation failure (atelectasis, recurrent apnoea, PDA, NEC, sepsis etc) were recorded. Trial of NIV on babies with CPAP failure in order to prevent intubation was also recorded. Presence of BPD was evaluated at 36 weeks of age (NIH definition).

Statistical Methods: Normally distributed variables will be described using means and standard deviations. Non-normally distributed variables were expressed by medians and interquartile ranges (IQRs).

O – 0008 | ORAL | CESAREAN SECTION DILEMMA

THE INFLUENCE OF INTERNATIONAL TEACHING VISIT ON THE USE OF QUADRATUS LUMBORUM BLOCK FOR POST-CESAREAN ANALGESIA IN LESKOVAC GENERAL HOSPITAL, SERBIA

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Abstract:

Objectives: Abdominal wall blocks became a part of clinical anesthesia practice 35 years ago. Their popularity has dramatically increased in the last decade, thanks to the introduction of simple and effective ultrasound guided techniques such as the transversus abdominis plane (TAP) block and more recently the quadratus lumborum block (QLB). In Serbia, the use of regional anesthesia (RA) and analgesia techniques in obstetric and gynecology cases has been low. Neither TAP block nor QLB for post Cesarean pain management were used in Serbia prior to April of 2017. Members of the Department of Anesthesia at Leskovac General Hospital, Serbia (LGH), asked for help in order to train physicians in the use of RA techniques for obstetric, orthopedic and general surgery cases. A 4 day teaching visit by fellowship trained regional anesthesiologist and 5 day visit by fellowship trained obstetric anesthesiologist from the USA were arranged.

Method: Similar programs were done before in Serbia in area of intraoperative obstetric anesthesia (Kybele program).1 Based on the success of the Kybele program, we decided to do a similar program in area of peripheral nerve (trunk) anesthesia. From the LGH anesthesia database for period 4/24/17 to 5/5/17 data on all Cesarean Delivery (CD) and gynecology cases were obtained. All cases where US trained anesthesiologist was involved were checked for quality of pain relief. An ultrasound (eZono 4000, Jena, Germany) and 100 mm needles (Stimuplex A, BBraun, Melsungen, Germany) were available during the visit.

Results: During the study period, 34 CD and 9 gynecological cases (hysterectomies) were done at LGH; 29 (85%) CD were done under general anesthesia (GA), 5 (15%) CD were done under spinal anesthesia and all of hysterectomies were done under GA. US anesthesiologist was involved in 18 CD and 9 hysterectomies. Two of the local anesthesiologists were actively involved in performing regional blocks under the supervision of US anesthesiologist. They performed bilateral QL type 1 block in 26 patients after recovery from GA, and in 1 patient after recovery from spinal anesthesia for postoperative pain management. Twenty-six (96%) of 27 patients with QLB had an adequate postoperative pain control (0-2/10 VAS score). During the visit, the expertise of local physicians progressively increased. By day number 4, two members of the department were ready to do blocks on their own.

Conclusion: In order for LGH to become recognized as a leading facility in regional anesthesia, the use of RA techniques must increase. A several day teaching visit can significantly improve the skills of local anesthesiologists. It is important to focus on few blocks only, so that the local team can gain experience in blocks that their patients need. We plan to monitor regional anesthesia use at LGH in the next 12 months. Future visits are planned in order to evaluate performance of trained people, teach local anesthesiologists additional peripheral nerve blocks and train physicians from surrounding hospitals.

References:

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O – 0009 | ORAL | CESAREAN SECTION DILEMMA

RAND UCLA APPROPRIATENESS USE IN CESAREAN SECTION. WEB TOOL.

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Abstract:

Introduction: Appropriateness use of medical procedures and technology must be an objective in medical care. Caesarean section (CS) is one of the medical procedures with a wider variability across the world.

Objectives: Development of Standards of Appropriateness use in caesarean section and Development of web based tool for advice in caesarean section.

Methods. RAND UCLA appropriateness method. According with RAND UCLA method of development of standards in appropriateness use (systematic review, definition of events, development of exhaustive criteria for caesarean section, double Delphi modified panel of experts), we have developed statements in CS.
We have applied these standards in a retrospective way to assess validity of the tool. We have developed a web tool for use in clinical scenery: www.asesorcesareas.com.

Results. We have developed standards for caesarean section, both for emergency (n= 7181) and scheduled CS (n=1369). 1002 caesarean sections were reviewed retrospectively to estimate appropriateness use in the performing of the obstetric area. In our sample, as much as 265 CS were stated as inappropriate (26.5%). We have designed a web base tool for daily use: www.asesorcesareas.com, both in English and Spanish language.

Discussion and conclusion. A set of 8550 statements or standards for both scheduled and emergency CS were validated for experts according to RAND UCLA Appropriateness method and can be used for clinical judgement. A web tool is available to use at www.asesorcesareas.com. The web tool helps feasibility of use of criteria and ease future update of these criteria. Due to continuing development of published evidence, literature review keeps updated few years after accomplishment. But, identification of variables that defines criteria in the obstetric area will remain without changes at most in the future.

Keywords: appropiatenes, standards, cesarean, webtool, decisions support.

O – 0010 | ORAL | NEONATAL HEALTH

THE EFFECT OF THE MODE OF DELIVERY AND TYPE OF REANIMATION TO OXYGEN SATURATION IN TERM NEWBORNS

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Abstract:

Objective: Measuring of the oxygen saturation (SpO2) in the first 20 minutes after birth and the time of achieving the optimal saturation in healthy and reanimated term newborns of normal vaginal delivery (NVD) and cesarean section (CS).

Methods: This prospective clinical study included 80 term newborns, 49 of which were born vaginally and 31 by SC without taking into account the division to emergency and elective SC. The newborns were divided in two groups. Group 1 consisting of 50 healthy newborns, 30 of NVD and 20 of SC. Group 2 consisting of 30 reanimated newborns, 19 of NVD and 11 of SC. 14 infants were resuscitated with 100% O2 and 16 with room air (21%O2) by positive-pressure ventilation (PPV). The preductal values of SpO2 obtained by pulse oximetry were analyzed continuosly within the first 10 minutes after birth, at 15th et 20th minute. The time to achieve SpO2≥90% was determined using a logarithmic approximation of trend line.
Results: SpO2 values of the whole sample were significantly lower in the newborns delivered by SC at any time after the second minute of life. Among NVD, the mean SpO2 at 1,5,10,15,20 minute were 60,1%, 88,3%, 96,1%, 97,4%, 98,2%, respectively. The mean SpO2 for SC was 53,7%, 83,6%, 94,8%, 96,3%, 97,4% respectively. Infants born through SC took 1 minute longer to reach SpO2≥90% than those delivered vaginally (7,68 minutes versus 6,67 minutes). Healthy neonates (Group 1) born vaginally achieve an optimal saturation in 5,81 minutes, and SC in 7,44 minutes. There is statisticaly significant difference in average SpO2 between NVD and SC from minute 2 to 20 which was provided by T-test. Oxygen saturation and time to achieve SpO2≥90% did not differ significantly between reanimated neonates (Group 2) delivered either vaginally or by cesarean section (7,98 minutes vs. 8,04 minutes). This can probably be explaned by larger number of emergency SC in the reanimated newborns group. In the group of resuscitated newborns SpO2 values increase equally for those receiving PPV in both room air(RAR) and 100% oxygen group from minute 2 to 6. In the first minute there ist a statistical difference on the margin of significiance at 0,05 level which can also be a result of the missing values for 15 newborns. The statisticaly significant difference was not present between the second and seventh minute, except in the sixth minute where there is also a marginal significance. From minute 8 to 20 the SpO2 values were higher in the RAR group which was confirmed by T-test. RAR resuscitated group needed less time to achieve optimal saturation (7,7 minutes vs. 8,3 minutes).

Conclusion: Oxygen saturation increases slower in healthy term newborn delivered through SC than NVD. There is no significant difference in SpO2 among NVD and SC in resuscitated newborns. Optimal saturation is reached faster in the group of newborns resuscitaded with 21% than with 100%O2

Keywords: newborn, oxygen saturation, reanimation, mode of delivery

O – 0011 | ORAL | CESAREAN SECTION DILEMMA

CAESAREAN SECTION RATES STANDARDIZATION

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Abstract:

C-section rates have been increasing in the last ten years, specially in developed countries. Regarding Spain, currently 22% of all births in public hospitals occur by CS, with highest rates around 35%. In Private hospitals rates are even higher (40%). But there´s no evidence so far that links these higher CS rate areas to a specially high obstetric risk population. It seems to be more attached to certain clinical practices .According to WHO, there is no justification for any region to have c- section rates higher than 10-15 % but there is no empirical evidence for an optimum percentage. But are CS indications standardized? Do we always perform a CS in similar clinical situations?

Objectives and method
In 2008, 5 public hospitals in the Balearic islands, carried out a pilot study in order to analyse CS rates and their adecuacy to different indications.
CS were divided in 2 groups :
*Elective (when pregnancy is planned to finish by CS)
*Emergency (if any unplanned event happens during labour) with 5 different subgroups: 1 Acute fetal distress (AFD)
2 Failed Labour Induction (FLI)
3 Arrest of dilatation
4 Cephalic Pelvic Disproportion (CPD) 5 Miscellany
There were strict criteria in each category that had to be met for a CS to be considered properly performed.
The main purpose was to prevent unnecessary c- sections and as a collateral effect to reduce the rates and keep them low.

Results. We joined the study with 25 %rate that has gradually come down to the current 14,8% that we maintain from 2015. In the last 6 years we reduced the number of c sections performed in Can Misses Hospital without an increase in assisted vaginal deliveries but a raise in uncomplicatedf vaginal birth. Today , chances of having a vaginal birth are more than 85%. The emergency/ elective CS ratio is 60/40 and has kept stable along this years. With regard to the emergency CS indications, 50% are due to acute fetal distress (stated by fetal scalp pH testing), 20 % due to dilatation arrest and the rest, equally split among the 3 other groups. 90% emergency CS are well suited to the criteria (this was one of the goals). On the other hand, elective CS fit the criteria in more than 98%. 50 % of these cesarean are carried out as a result of breech presentation despite the introduction of external cephalic version technic in 2013, followed by 20 % for those women with 2 or more previous c-sections, 16 % to multiple pregnancy and the rest due to a heterogeneous diagnosis group.

Conclusion. The medical implementation of really strict criteria for caesarean performance has taken us to a very important and sustained reduction of CS rates.The group overview of each individual situation and the staff concern and encouragement has brought a deep change in birth care. It is necessary to develop an educational programme directed to general public. Caesarean section standardization is essential in any Maternity Ward in order to raise awareness of the total number of unnecessary CSs.

O – 0012 | ORAL | CESAREAN SECTION DILEMMA

THE ROLE OF ACUPRESSURE ON PAIN AFTER CAESAREAN SECTION: A SYSTEMATIC LITERATURE REVIEW

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Abstract:

Introduction: In the postpartum period, pharmacological treatments for reducing pain dependent on caesarean section (CS) carries a variety of risks in terms of breast milk and baby. Therefore, healthcare professional and mothers are turning to complementary therapies (CT). Acupressure is a CT method that can be easily applied by nurses. The purposes of this study were investigated the evidence-based studies regarding acupressure for pain after CS and to lead health care professionals.

Material and Methods: The studies made in the last 10 years were systematic review through the comprehensive databases as PubMed, MEDLINE, EMBASE, the Cochrane Library, Natural Medicines, Comprehensive Database.

Results: As a result of the systematic review, three trials -two randomized controlled trials (RCT) and one experimental- on examining the effect of acupressure pain after CS have reached. In an experimental study with 104 women in Taiwan, it was found that acupressure applied to the point P6 (Pericardium 6) reduced pain and anxiety in the experimental group at 2 and 4 hours after CS. In the single-blind RCT in Indonesia, acupressure applied to HT6 (Heart 6 or Yinxi) and LI4 (Large Intestine 4 or Hegu) points was found to be statistically significant in reducing pain intensity after CS. In Iranian, it was determined in RCT with 108 women that acupressure applied to LI4 point (Large Intestine 4) had no effect on CS pain 60, and 120 minutes after intervention ($p > 0.05$).

Conclusion: It has been determined that there is no standardization at the acupressure points, the time of application and duration of application to reduce pain after CS. Eventually, a systematic and robust RCTs are needed with a larger sample that examines the effect of acupressure on postoperative pain after CS.

Key words: Acupressure, caesarean section, evidence, postpartum pain

O – 0013 | ORAL | PUBLIC HEALTH

Evaluation of the Social Support Perceived by Women During Pregnancy, Childbirth Fear, and Delivery Modes

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Abstract:

Objectives: This descriptive study aimed to evaluate the fear of childbirth that women experience during their delivery, the social support they perceive in this process, and the mode of delivery.

Methods: This study was performed between 04.01.2017 and 05.19.2017 with 300 women who applied to the Pregnant Monitoring Polyclinic at Zeynep Kamil Maternity and Children's Training and Research Hospital of Health Sciences University, were in their last trimester and were at no risk regarding their pregnancy or an indication of cesarean birth. A questionnaire form consisting of 17 questions, version 'a' of Wijma Delivery Expectation/Experience Questionnaire (w-deq) and Multidimensional Scale of Perceived Social Support were used to evaluate the fear of childbirth and mode of delivery. SPSS statistical package program was used to analyze the women's data.

Results: The mean age of the participants was 28.72, and 54% of the participants ranged from 18- to 29-years. All participants were married among which 41.7% had completed high school education, and 79% were housewives. The educational status of the participants' husbands was recorded, which showed that 32% were high school graduates and 18.7% did not work. Moreover, 88.7% of the participants stated that they had social insurance; the economic status of 77.3% was moderate, while 85.7% had a nuclear family. The data also showed that 63.7% of the participants were multiparous and 43.7% had no children before.

Most participants (72.7%) preferred to give birth normally while 25% preferred the cesarean method. Moreover, 79.56% of the pregnant women preferred to give birth normally considering that it would be healthier for them; however, 25.2% stated that they preferred cesarean birth following the doctors' order. While choosing their delivery mode, 54% of the women considered their own opinions the most. Furthermore, 45% of the participants were apprehensive of giving birth normally. Regarding their birth-related fears, 40.3% stated that they had fears when they thought about the delivery process. Scores obtained from the version 'a' of Wijma Delivery Expectation/Experience Questionnaire (w-deq) indicated that women had a moderate level of childbirth fear (51.68±1.6), and according to the Multidimensional Scale of Perceived Social Support, they received the most support from their families (27%).

Conclusion: The results of this study indicate that women feared childbirth at a moderate level, selected normal spontaneous labor and received the most support from their families.

Keywords: delivery, childbirth fear, preference of delivery mode, social support

O – 0014 | ORAL | CESAREAN SECTION DILEMMA

PLACENTAL LOCATION AFTER CESAREAN SECTION

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Abstract:

Objectives: Most serious complications after cesarean occur at the site of the uterine scar, including placental complication i.e. placenta accreta, which can cause massive post partum hemorrage. There is a close correlation between the number of previous cesarean sections and risk for such complication. Thus, location of the placenta in following pregnancies is important data for providing safer health care, and is contained routinely in third trimester ultrasound report.The aim of this study was to determine if cesarean section causes more frequent implantation of the placenta to the anterior wall of the uterus. Secondary aim was to investigate if placental location influences fetal and placental growth.

Methods: Medical records of 847women delivered by cesarean section were reviewed retrospectively. Placental location was identified from routine preoperative ultrasonography reports. Placental location was categorised as anterior, posterior, fundal or lateral. The frequencyofcertain placental location was calculated depending on the number of previous caesarean sections and interval between to cesarean section in woman. Birth weight of newborn and placenta as well as weight of mother were correlated and compared depending on placental location. All data were statistically analysed.

Results: The mean age of the patients was 31.6± 5.2 years. First cesarean section was performed in 50.1% (424/847) patients, second in 41.9% (355/847), third in 7.2% (61/847) and fourth in 0.8% (7/847). Anterior location of the placenta was found in 46.7% of patients to whom first cesarean was performed, 49.3% patients with one previous cesarean section, 44.3% with two previous cesarean section and 71.4% with three previous cesarean sections. There was significant difference in distribution of placental location depending on number of cesarean section ($p=0.0241$). There was positive correlation between birth weight of the fetus and placenta ($r=0.663$, $p<0.001$), and weight of mother and weight of placenta ($r=0.243$, $p<0.001$). Significant difference in birth weight of newborn was noticed depending on placental location ($p=0.042$). Placenta was more frequently implanted on anterior wall when interval between two cesarean sections was less than 3 years ($p<0.05$, figure 1).

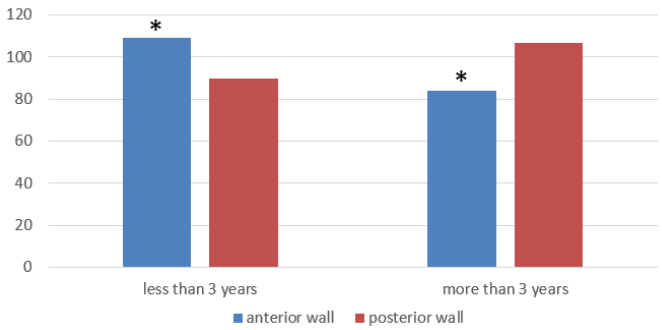

Figure 1. Placental location and cesarean section interval

Conclusions: The frequency of anterior location of placenta is increasing with rising number of previous cesarean sections. The interval between the cesarean section influences the location of placenta. Placental location influences the weight of newborn which may represent better vascularisation of different segments of uterine wall and may also influence amount of blood loss during operation.

Key words: placenta, location, cesarean section.

O – 0015 | ORAL | CHORIOAMNIONITIS

CHORIOAMNIONITIS AND THE POSTNATAL PROGNOSIS OF INFANTS BELOW 26 WEEKS OF GESTATION

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Abstract:

Introduction: Acute chorioamnionitis (ACAM) is the most common lesion reported in the placenta, both in cases with preterm prelabor rupture of membranes or preterm labor with intact membranes. The histopathologic features of ACAM include amniotropic infiltration by both maternal and fetal neutrophils in the chorioamniotic membranes and the umbilical cord. ACAM is most likely associated with an adverse outcome in the neonates, but the clinicopathologic significance of ACAM is unclear in extreme premature infants.

Objectives: The aim of this study was to investigate the effect of the severity of ACAM on the short- and long-term outcomes of preterm infants below 26 weeks gestation.

Subject & Methods: We conducted a retrospective study of 82 inborn infants below 26 weeks gestation at our hospital from April 2008 to March 2012. We evaluated the severity of each placental ACAM using the Blanc classification of chorioamnionitis. We excluded patients whose maternal diseases had severe pregnancy-induced hypertension and/or chronic abruption-oligohydramnions sequence. There was a total of 27 infants without ACAM from whom 21 survived, 25 infants with mild or moderate-ACAM from whom 20 survived, and 30 infants with severe-ACAM from whom 25 survived. All surviving infants had no congenital malformations or major heart diseases. We assessed the influence of the severity of ACAM on mortality and neurodevelopmental outcomes at 3 years of age using the revised Kyoto Scale of Psychological Developmental test and analyzing neonatal morbidities in the three groups. Results: There was no significant difference between three groups in patient characteristics. In an analysis of neonatal morbidities, the severity of ACAM was associated with increasing of severe bronchopulmonary dysplasia ($p=0.01$) and home oxygen therapy ($p=0.01$). Infants with severe-ACAM had a tendency of lower language-social developmental quotient compared with postural-motor developmental quotient, but this was not significantly different. There were no other differences regarding mortality and neurodevelopmental outcomes.

Conclusion: Our results suggest that the severity of ACAM is strongly related to chronic respiratory condition and is prone to lower language-social developmental quotient.

Key words: chorioamnionitis, bronchopulmonary dysplasia, extremely low birth weight infants and neurodevelopmental outcomes

O – 0016 | ORAL | CHORIOAMNIONITIS

COMPARISON BETWEEN LEUKOCYTE ESTERASE ACTIVITY (LEA) AND HISTOPATHOLOGY EXAMINATION IN IDENTIFYING CHORIOMANIONITIS IN DR. MOHAMMAD HOESIN HOSPITAL, SOUTH SUMATRA PROVINCE, INDONESIA

Putri Healthireza Novianesari, Nuswil Bernolian
dr. Mohammad Hoesin Hospital, South Sumatra Province, Palembang, Indonesia

Abstract:

Objective: To compare sensitivity and specificity of LEA to histopathology examination in diagnosing chorioamnionitis.

Methods: We compared diagnostic tests in dr. Mohammad Hoesin hospital, Palembang, from September 2015 to April 2016. Ninety-one pregnant women were included. LEA and histopathology examination were carried out with neonatal sepsis as main outcome. Data were analysed by SPSS version 21.0 and Med-calc statistic.

Results: Chorioamnionitis was detected in 54 (77.1%) patients with gestational period ≥37 weeks and in 16 (22.9%) patients with gestational period <37 weeks. Duration of membrane rupture was significantly associated with chorioamnionitis ($p = 0.001$ and $p = 0.011$). Neonatal sepsis was also significantly associated with chorioamnionitis in both groups ($p = 0.014$ and $p = 0.036$). LEA value with cut-off point >0.5 was able to significantly predict chorioamnionitis with 98.6% sensitivity and 95.2% specificity, providing better accuracy in diagnosing chorioamnionitis in preterm pregnancy group.

Conclusion: LEA had a very good predictive value for chorioamnionitis with better accuracy in diagnosing chorioamnionitis in preterm pregnancy.

Keywords: Chorioamnionitis, Histopathology, Leukocyte esterase activity, Neonatal sepsis, Salafia criteria

O – 0017 | ORAL | CHORIOAMNIONITIS

AMNIOTIC FLUID INFLAMMATORY BIOMARKERS IN DIABETIC AND NON-DIABETIC SINGLETON PREGNANCIES

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Abstract:

Objectives. While maternal obesity is the major etiologic factor of gestational diabetes (GDM), type 1 diabetes (T1D) is a chronic autoimmune disease. Individuals with T1D are prone to infections. Elevated serum values of interleukin (IL) -6 have been described in diabetic people. No reports exist on the difference of amniotic fluid inflammatory biomarkers in diabetic and non-diabetic pregnancies. We studied the amniotic fluid matrix metalloproteinase (MMP) -8, tissue inhibitor of matrix metalloproteinases -1 (TIMP-1), MMP-8/TIMP-1 molar ratio, IL-6, and cathelicidin concentrations in healthy women and those with GDM and T1D. Our aim was to examine whether the concentrations of biomarkers used in intra-amniotic infection diagnostics differ between diabetic and non-diabetic women.

Methods. Amniocentesis was performed in 72 singleton pregnancies with intact membranes between 17+0 and 37+5 weeks of gestation. The indication for amniocentesis was karyotyping (n=26), or evaluation of fetal lung maturation (n=46). Amniotic fluid MMP – 8 was quantitated with an immunoenzymometric assay (MMP-8 IEMA, Medix Biochemica, Espoo, Finland) and others by using commercial ELISA.

Results. Women with T1D had lower concentrations (median, range) (NG/ML) of MMP-8 [2.7 (0.4-17) VS. 4.6 (1.8-76), P=0.048], TIMP-1 [816.5 (562-1260) VS. 1171 (594-3473), P<0.001], and Cathelicidin [0.7 (0.4-1.4) VS 1.0 (0.3-6.4) P=0.007] than controls, and the difference of MMP-8 and TIMP-1 concentrations stayed also when adjusted for gestational age at sampling (P=0.008 for MMP-8 AND P=0.014 for TIMP-1). MMP-8 and Cathelicidin concentrations were higher in GDM pregnancies than in T1D Pregnancies. IL-6 concentrations did not differ between women with diabetes Type 1, GDM, or without diabetes.

Conclusions. AF-MMP-8, TIMP-1, MMP-8/TIMP-1 molar ratio, IL-6, and Cathelicidin are potentially useful biomarkers in intra-amniotic infection diagnostics also in diabetic pregnancies. Although statistical difference was noticed, it has no clinical relevance.

O – 0018 | ORAL | CONGENITAL HEART DISEASES

CATHETER BASED PULMONARY BALLOON VALVULOPLASTY AND AORTIC BALLOON VALVULOPLASTY IN NEWBORNS: A SINGLE NEONATAL INTENSIVE CARE UNIT EXPERIENCE

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Abstract:

Background: Congenital heart diseases (CHD) occur in 2.5-3 per 1000 live births and still is a major cause of mortality and morbidity in neonates even if noticed in the antenatal examination. Although many forms of CHD do not always need immediate postnatal intervention; some forms require early surgery or catheterization procedures in the neonatal period.

Aim: To evaluate the demographics, diagnoses, procedures, complications and early results of newborns who underwent transcatheter pulmonary balloon valvuloplasty and aortic balloon valvuloplasty between January 2014 and December 2016 in Gaziantep University Hospital Neonatal Intensive Care Unit, retrospectively.

Methods: Patient's demographics, diagnosis, clinical data, echocardiographic and angiographic measurements, type of transcatheter procedure, procedural success, complications, NICU stay, need for surgery, need for the second catheterization were extracted from the medical records. Results: A total of nine patients underwent pulmonary balloon valvuloplasty. 8 of these patients had critical pulmonary valve stenosis/ near atretic pulmonary valve, and one had tetralogy of Fallot. Only three of the patients had antenatal diagnosis. The median postnatal age at the procedure time was 2.7 days (range, 1-5) and the weight was 2.9 kg (range, 1.9-4). Complications were observed in three patients in the course of the procedure, one of them was an asymptomatic RVOT perforation, the others were arrhythmias.e procedure time was 2.7 days (range, 1-5) and the weight was 2.9 kg (range, 1.9-4). Aortic balloon valvuloplasty procedure was applied to nine patients. 3 of them had critical aortic valve stenosis and 6 had coarctation of aorta and none of them had prenatal diagnosis. The median age of this group was 13,4 days (range, 5-22) and weight was 3,1 kg (range, 2,2-3,8). In one patient, a transient AV block was observed during the procedure, but there was no mortality. The median hospital stay was 6,8 days (range, 2-14).

Conclusion: There is a marked acceleration in the transcatheter treatment of CHD over the past 30 years with the improvements in techniques and advanced pre-post interventional intensive care. In critical pulmonary stenosis, pulmonary balloon valvuloplasty is considered for first line therapy. Treatment of native aort coarctation and critical aortic stenosis by balloon angioplasty (BA) is controversial in neonates because of restenosis and need for surgical repair after initial catheterisation. Regarding wide variability in anatomy and size of defect, catheter therapy needs to be individulized for each patient.

O – 0019 | ORAL | CONGENITAL HEART DISEASES

18-YEAR EXPERIENCE IN MANAGEMENT OF COMPLETE TRANSPOSITION OF THE GREAT ARTERIES IN NEWBORN: A SINGLE-CENTRE'S EXPERIENCE

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Abstract:

Objectives. Complete transposition of the great arteries (TGA) is a common cyanotic congenital heart defect, with an incidence rate of 0.02%, accounting for 5–7% of congenital heart diseases. We report our experience in complete TGA and the long-term follow-up result in a level III Neonatal Intensive Care Unit.

Methods. Retrospective, descriptive and analytic review of infants born with complete TGA hospitalized between 2000-2017. They were followed for early and late mortality, long-term survival, postoperative morbidity and reintervention or reoperation.

Results. In the studied period, we had 18 cases of TGA (simple n=10, with ventricular septal defect n=7, Taussing-Bing anomaly and coarctation of the aorta n=1), 82% of them with prenatal diagnosis. The average gestational age was 38 weeks and we had two premature infants. Most patients without a prenatal diagnosis of heart disease presented symptoms in the first 24 hours of life. Cyanosis was the most frequent clinical sign, either alone or with murmur. Cardiopulmonary resuscitation in the delivery room was required in three of them. Conventional ventilation was needed in 16 newborns. All of them initiated prostaglandin E1 and 9 required ionotropic agents. The Rashkind procedure was performed in 16 cases with successful results. Furosemide was prescribed in 9 cases due to heart failure. Twelve patients received complete anatomical repair, one performed correction of the coarctation of the aorta previously to the definitive correction, one patient received single ventricular palliation. One developed pulmonary valvular stenosis and underwent valvular dilation previously to definitive correction. Two patients died before surgery. In the group who had definitive correction of the defect, three died in the post-operatory period, the patient with the single ventricular palliation died within two years. Over an average period of 9 years of follow-up, two had specific language development disorder and one attention deficit hyperactivity disorder.

Conclusion. The percentage of patients with a prenatal diagnosis of TGA was higher than reported by other authors. Outcomes in the neonatal patients with TGA who underwent arterial switch have been pleasing in terms of survival rates, reintervention, or the occurrence of major complications during follow-up. After the surgical revolution of arterial switch operation reduced morbi-mortality — which remains significant — we have now to improve the preoperative care of neonates with TGA

O – 0020 | ORAL | CONGENITAL HEART DISEASES
IS PLANNED DELIVERY FAVORABLE FOR INFANTS WITH CONGENITAL HEART DISEASES?

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Abstract:

Objective. The aim of this study was to evaluate the impact of the electiveness and the route of delivery on prognostic outcomes of infants with congenital heart diseases (CDH).

Study Design Two hundred and forty-two infants ≥ 34 weeks of gestation with congenital heart diseases were enrolled. Electiveness was defined by the time of delivery; infants born between 8 AM to 5:30PM fell into group A, from MN to 6 AM into group C, others into group B.

Result. One- and five-minute Apgar score (1-AS and 5-AS) of group A, B and C did not show statistically significant differences. However, 1-AS and 5-AS of infants with CDH born by vaginal delivery were higher than those of infants born by cesarean section ($P<0.001$ and $P<0.001$, respectively). In infants with ductal-dependent CDH (n=74), 1-AS and 5-AS were also higher in vaginally delivered infants, but only 1-AS was statistically significant ($P=0.041$ and $P=0.103$, respectively).

Conclusion. Vaginal delivery, regardless of the time of delivery, is related with higher one- and five-minute Apgar scores in infants with congenital heart diseases than cesarean section.

O – 0021 | ORAL | PERINATAL OUTCOME

EFFECTS OF WARMING OF LOWER EXTREMITIES BY HEAT AND STEAM GENERATING SHEETS ON BLOOD FLOW IN POPLITEAL VEINS ASSESSED BY ULTRASOUND FLOWMETRY TO PREVENT DEEP VEIN THROMBOSIS DURING PREGNANCY

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Abstract:

Objectives. Deep vein thrombosis of the lower extremities has been one of the most serious problems for pregnant women because of the risks of pulmonary embolism and sudden maternal death. Since the pregnant enlarged uterus often compresses the inferior vena cava and the strength of leg muscles pumps in women is weaker than that in men, pregnant women have a higher risk of developing venous blood stasis. Although an instrument for applying intermittent pressure (IPA) to the lower limbs has been clinically used to avoid thromboembolism, the apparatus is heavy and usually requires an electric power source. Elastic stockings for the lower legs have also been used to avoid blood stasis, these often cause pains and increase the risk of bedsores on the legs. Thus, a novel method to avoid blood stasis has been anticipated. A heat- and steam-generating sheet (HSG), which applies wet heat and keeps the attached skin area at around 40°C for 8 hrs, increases local blood flow. The aim of this study was to test the possibility of using HSG to prevent blood stasis in the lower legs by comparing its effects with these of IPA in women.

Methods. Twelve female university students were included in this study: seven for the IPA study and five for the HSG study. In this study, we employed nonpregnant subjects in each follicular (FP) and luteal phase (LP) to obtain basic results. We performed the measurements once in each FP and LP phase, and measured the blood flow velocity in the popliteal vein (VPV) using Doppler flowmetry of ultrasonography. Before and soon after IPA or HSG application, we measured VPV. In the IPA study, we used a commercially available massager to apply an intermittent pressure of 10.8 kPa for 15 min. In the HSG study, we warmed the dorsal area of the right lower leg for 30 min while the subjects were seated by applying an HSG sheet of 17.3 x 9 cm. We also applied a non-warming HSG sheet as a control.

Results. IPA study: The VPV in the FP significantly increased from 0.10 ± 0.02 to 0.12 ± 0.03 (m/sec), and that in the LP also significantly increased from 0.10 ± 0.01 to 0.12 ± 0.02, respectively. HSG study: The VPV after HSG warming also increased more significantly (increase of VPV, 0.03 ± 0.00 m/s) compared with that after the control warming (-0.02 ± 0.00 m/s) in the FP. Similar results were also obtained on measurements in the LP.

Conclusions. Both IPA and HSG increased venous blood flow in the lower legs of women regardless of the menstrual phases. HSG is handy and requires no equipment or power source. Application of the HSG sheet might be recommended for the prevention of blood embolism. Further investigations applying HSG for pregnant women are necessary and anticipated

O –0022 | ORAL | CRITICALLY ILL PATIENT IN PERINATAL MEDICINE

PERIPARTUM TYPE B AORTIC DISSECTION IN PATIENTS WITH MARFAN SYNDROME WHO UNDERWENT AORTIC ROOT REPLACEMENT

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The University of Tokyo Hospital/Department of Obstetrics and Gynecology

Abstract:

Objectives: Patients with Marfan syndrome (MFS) show a substantially increased risk of pregnancy-related aortic dissection (AD). Prophylactic aortic root replacement (ARR) is recommended for patients with aortic root dilatation to decrease cardiovascular risk during the peripartum period. However, evidence supporting the management of parturients with MFS who have received ARR is limited. This study was aimed to investigate pregnancy outcomes, especially the risk of pregnancy-related aortic dissection (AD), in patients with Marfan syndrome (MFS) after prophylactic aortic root replacement (ARR).

Methods: The pregnancy outcomes of all patients with MFS managed at our institute between 1982 and September 2016 were retrospectively reviewed based on medical records.

Results: Among 22 patients (28 pregnancies) who had been managed as potential MFS or related disorders, 14 (17 pregnancies) fulfilled the revised Ghent nosology (2010) criteria for MFS and were enrolled in this study. Five patients (5 pregnancies) had received ARR before conception, of which 3 (60%) developed type B aortic dissection [AD(B)] during the peripartum period, whereas only one of 10 patients (12 pregnancies) without ARR (8.3% of pregnancies) developed AD(B) in the peripartum period ($p < 0.05$, chi-square test).

Conclusions: Our study results suggested that MFS patients after prophylactic ARR are still at high risk of AD(B) during the peripartum period. Careful pre-pregnancy counseling and multidisciplinary care throughout the peripartum period are essential for the management of MFS, even after surgical repair of ascending aortic aneurysm. Key Words: Marfan syndrome, pregnancy, aortic dissection, aortic root replacement

O – 0023 | ORAL | CRITICALLY ILL PATIENT IN PERINATAL MEDICINE

INVESTIGATE THE EFFICACY AND SAFETY OF RECOMBINANT HUMAN SOLUBLE THROMBOMODULIN FOR OBSTETRIC DISSEMINATED INTRAVASCULAR COAGULATION

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Abstract:

Objectives: Obstetric disseminated intravascular coagulation (DIC) is a secondary phenomenon, and the prevalence is 0.49-1.29% of all pregnancies. Two leading causes of obstetric DIC are placental abruption and postpartum hemorrhage, to which 37% and 29% respectively attributed. Recombinant human soluble thrombomodulin (rhTM) is a novel agent of anticoagulants for treating DIC. The effects of rhTM on DIC were previously examined, and this agent is widely used to treat patients with sepsis-induced DIC. However, limited clinical evidence supports the use of rhTM for obstetric DIC. Some studies concluded that the plasma antithrombin (AT) level is a powerful prognostic marker of DIC related to sepsis, malignancy, and liver disease, as this level is significantly lower in patients with a poor prognosis. However, no previous studies had addressed the prognostic role of the AT level in patients with obstetric DIC. The aim of this study is to investigate the effectiveness of rhTM for obstetric DIC, and the relationship between AT activity and the prognosis of obstetric DIC.

Methods: This was a retrospective cohort study at TOYOTA Memorial Hospital, and 61 patients with obstetric DIC were eligible. Obstetric DIC was diagnosed as a score of ≥8, based on the obstetric DIC score approved by the Japanese Society of Obstetrics and Gynecology. The exclusion criteria were acute or chronic liver failure associated with non-obstetric causes, coagulation disorders diagnosed before pregnancy, untreated diabetes mellitus, and missing clinical or clinical laboratory data. We classified patients according to underlying disorders (placental abruption and massive hemorrhage) and evaluated the efficacy and safety of administrating rhTM. Primary outcome was the occurrences of organ damage, and secondary outcomes were the total amount of hemorrhage and lowest level of serum AT activity.

Results: Thirty-seven patients were treated with rhTM, and 24 patients were treated without rhTM. There were no significant differences in baseline characteristics, initial laboratory data, and treatment between the two groups. In the patients with placental abruption, the occurrences of organ damage were lower than control group (15.8% vs 58.3%, $p=0.050$). While there were no significant differences in the amount of bleeding, the lowest AT activity of rhTM group was higher than that of control group (75.1% vs 58.3%, $p<0.001$). Our receiver operating characteristic curve analyses revealed the predictive value of the lowest AT activity for developing organ damage; at an AT activity cutoff point of 60.5%, the sensitivity was 90.5% and specificity was 62.5%. Our multiple logistic regression analysis confirmed no increase in the bleeding volume as a consequence of rhTM use; rather, the fibrinogen concentration at the initial visit was an important factor. Better results were not obtained in massive hemorrhage group than placental abruption group.

Conclusions: Obstetric DIC induced by placental abruption is characterized by a consumption-related decrease in anticoagulant factors, and is, therefore, an optimal rhTM treatment target. In this study, we evaluated the prognostic value of AT in patients with obstetric DIC.

O – 0024 | ORAL | CRITICALLY ILL PATIENT IN PERINATAL MEDICINE

NEONATAL SUPRAVENTRICULAR TACHYARRHYTHMIAS: ANALYSIS OF TREATMENT EFFICACY AND THERAPEUTIC APPROACH RECOMMENDATIONS

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Abstract:

Objectives: Supraventricular tachycardia is the most common arrhythmia in neonates. This study aimed to analyse etiology, type, management and outcome of supraventricular tachyarrhythmias in neonates treated in a tertiary neonatal intensive care unit.

Methods: Newborns diagnosed with supraventricular tachyarrhythmia from October 2012 to June 2017 at Mother and Child Health Institute of Serbia were included in the study. Pregnancy, birth information, electrocardiography (ECG), 24h Holter ECG and echocardiography findings were evaluated. The arrhythmias were reviewed in regard to the therapeutic response.

Results: Out of 22 patients, 14 (63.6%) were male and 8 (36.4%) were female. The average pregnancy duration and birth weight were 38.2 ± 2.3 weeks and 3280g ± 573g respectively. There were 31.8% preterms. The median Apgar scores were 8 in 1st and 9 in 5th minute. Arrhythmia was mainly noticed in the first day of life (45.5%), whereas in 13.6% patients it was diagnosed prenatally. Dominant clinical presentations were tachypnoea (40.9%), irritability and poor feeding (9.1%) and paleness (4.5%), while 45.5% newborns were asymptomatic. Paroxysmal supraventricular tachycardia (SVT) was present in 18 patients (81.8%), with 2/18 (11.1%) expressing Wolff-Parkinson-White (WPW) syndrome on ECG. Ectopic atrial tachycardia (EAT) was revealed in the remaining 4 (18.2%). The first line therapy for SVT was adenosine in 11/18 patients and was effective in 8/11 (72.7%) cases. Remaining 3/11 arrhythmias were aborted with amiodarone infusion (including two patients resistant to DC cardioversion). In 2/18 patients either digoxin or propafenone were effective, while in 5/18 (27.8%) SVT converted to sinus rhythm spontaneously. Secondary prevention was initiated with digoxin in 9/18 (50%) patients, obtaining complete control in 4/9 of them. In 3/9 cases the addition or replacement with propranolol ensured attack control and 2/9 remaining patients required amiodarone. In 5/18 (27.8%) cases propranolol was the initial secondary prevention therapy with adequate response in all patients, including the two with WPW syndrome. One patient was treated with propranolol and propafenone combination. One SVT interrupted with amiodarone was finally controlled with flecainide. Two patients (11.1%) did not require therapy. Refractory SVT manifested in 3/18 patients (16.7%), requiring multiple therapy corrections and use of amiodarone or flecainide. Patients with EAT were successfully treated using propranolol in combination either with amiodarone (3 patients) or digoxin (1 patient).

Conclusions: Our results have shown that the most frequent tachyarrhythmia in newborns is SVT, controlled best with adenosine as initial and propranolol as long-term therapy, which is in accordance with literature data. Based on the analysis of our experience, instead of conclusion we present a proposal of SVT management in neonatal age Figure 1.

Keywords: neonates, supraventricular tachycardia, treatment

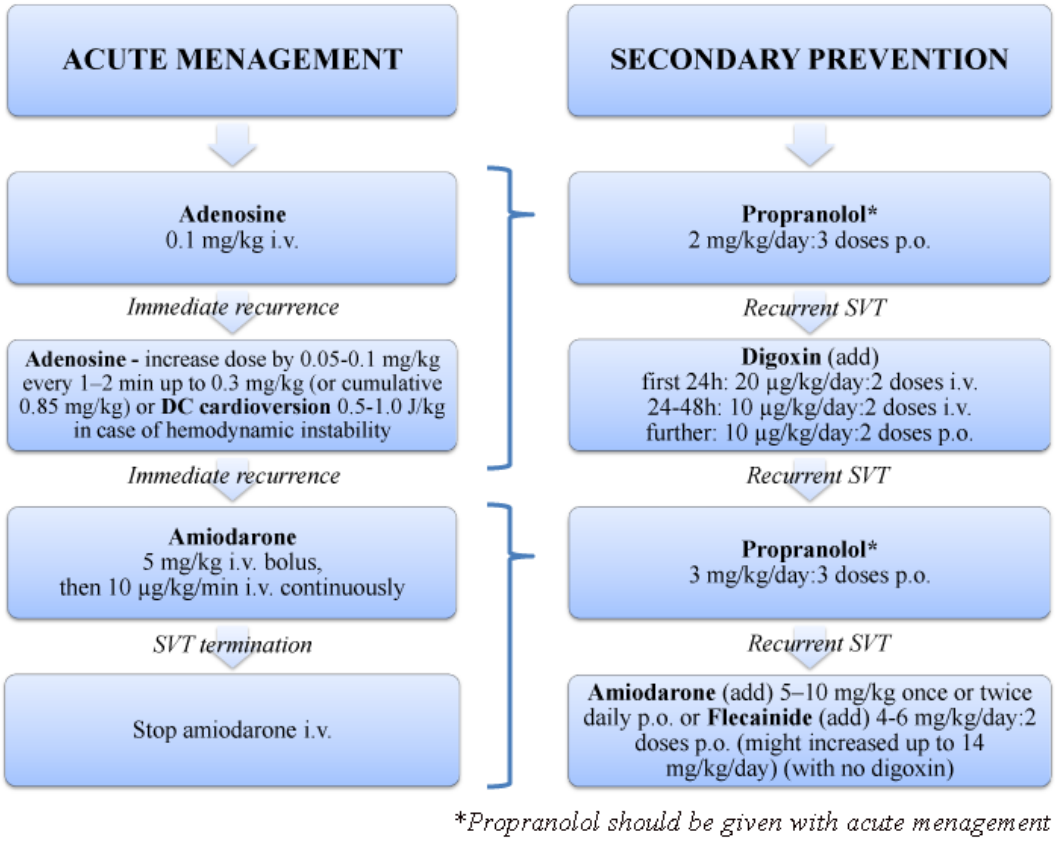
ACUTE MENAGEMENT
SECONDARY PREVENTION
Adenosine
0.1 mg/kg i.v.
Propranolol*
2 mg/kg/day:3 doses p.o.
Immediate recurrence
Recurrent SVT
Adenosine - increase dose by 0.05-0.1 mg/kg every 1–2 min up to 0.3 mg/kg (or cumulative 0.85 mg/kg) or DC cardioversion 0.5-1.0 J/kg in case of hemodynamic instability
Digoxin (add)
first 24h: 20 µg/kg/day:2 doses i.v.
24-48h: 10 µg/kg/day:2 doses i.v.
further: 10 µg/kg/day:2 doses p.o.
Immediate recurrence
Recurrent SVT
Amiodarone
5 mg/kg i.v. bolus,
then 10 µg/kg/min i.v. continuously
Propranolol*
3 mg/kg/day:3 doses p.o.
SVT termination
Recurrent SVT
Stop amiodarone i.v.
Amiodarone (add) 5–10 mg/kg once or twice daily p.o. or Flecainide (add) 4-6 mg/kg/day:2 doses p.o. (might increased up to 14 mg/kg/day) (with no digoxin)
*Propranolol should be given with acute menagement

Figure 1.

O – 0025 | ORAL | HIGH RISK PREGNANCIES

PERINATAL OUTCOMES IN WOMEN WITH HISTORY OF VENOUS THROMBOEMBOLISM

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Abstract:

Background: Despite intensive research, thromboembolism still accounts for significant maternal. Our aim was to determine thrombophilia in patients with thromboembolism during pregnancy and to evaluate the efficiency of antithrombotic prophylaxis in patients with thrombophilia for prevention of recurrent thromboembolism.

Material and methods: Group I: n= 87 (28,7±4,2 years), subgroup I (n=68) women with history of thromboembolism, subgroup II (n=19) women with thromboembolism during current pregnancy, group II (control) – healthy pregnant women (n=60) were screened for genetic thrombophilia and antiphospholipid antibodies (APA). Subgroup I received prophylaxis with low molecular weight heparin (LMWH) +/- aspirin (50-100 mg/day) in preconception period, during pregnancy and at least 6 weeks postpartum.

Results: In group I 54% had familial history of venous thromboembolism, and 67,8% had personal history of pregnancy complications (fetal loss syndrome, preeclampsia, placental abruption) ($p<0,05$ vs. control). In the group I thrombophilia was detected in 92,6%: FV Leiden (22% +/-), prothrombin G20210A (13,2% +/-), multigenic fibrinolytic defects (63,2%); APA (48,5%), hyperhomocysteinemia (44%) ($p<0,001$ vs. control). In 7 of 30 tested pts (23,%) we found decreased ADAMTS-13 activity with inhibitor. Recurrent thrombosis occurred in 1 woman from subgroup I before the start of LMWH and in 5 pts from subgroup II (26,3%) ($p=0,091$). In subgroup I no one had severe obstetrics complications. All pts were delivered at term and all babies were alive (39,7% of cesarean sections in the subgroup I and 47,4% in the subgroup II). In subgroup II moderate to severe obstetrics complications were noted: preeclampsia, IUGR grade I-III, critical maternal-placental-fetal blood flow disturbances (43,7%). Preterm delivery was required in 21% pts from subgroup II ($p<0,05$).

Conclusions: Thrombophilia might be the essential pathogenetic mechanism of thromboembolism associated with pregnancy. LMWH was effective for prevention of recurrent thromboembolism and obstetric complications. Women with personal or family history of thromboembolism or with history of obstetric complications should be screened for thrombophilia, including ADAMTS-13 activity with inhibitor.

O – 0026 | ORAL | HIGH RISK PREGNANCIES

INHERITED CONNECTIVE TISSUE DISEASES

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Abstract:

Object: To evaluate the rate of maternal and perinatal complications in patients with inherited connective tissue diseases (Marfan syndrome, Ehlers-Danlos syndrome (EDS), hereditary hemorrhagic telangiectasia(HHT).

Material and Methods: We describe our experience of managing 56 pregnant women with confirmed diagnosis of hereditary connective tissue diseases (23 with Marfan syndrome, 22 with EDS, 11 with HHT). All patients were examined by using physical examination, routine laboratory tests, ECG, echocardiography, pulse oximetry, routine coagulation tests, D-dimer, F1+2, VWF ristocetin cofactor assay or the collagen binding assay, VWF antigen assay; some patients underwent MRI and angiography. Results: All patients had bleeding various localizations. In patients with Marfan syndrome more prominent were cardiovascular complications: 18 women developed increasing of mitral regurgitation, 10—aortic insufficiency, 13—mitral valve insufficiency. 1 patient with Marfan syndrome was died due to aortic dissection in 45 day after delivery. Pulmonary arteriovenous malformations were visualized in 10 patients with HHT; the symptoms of hypoxemia developed in 6 HHT patients and were result of right-to-leftshunt. 40patients had abnormal coagulation tests: platelet dysfunction—in 38 patients; acquired von Willebrand syndrome - in 18; DIC syndrome—in 31. Cesarean section was performed in 53 patients. Vaginal delivery (3 patients with EDS) was complicated by massive postpartum hemorrhage and deep vaginal tears. 18 babies were born prematurely, and maximum number of the prematurity observed in EDSgroup. Musculoskeletal system anomalies, congenital heart diseases were observed in 17 babies.

Conclusions: Patients with inherited connective tissue diseases have a high rate of maternal and perinatal complications during pregnancy and delivery and require the multidisciplinary care, repeated hemostasiological testing, genetic counseling at pregnancy planning. Cesarean section is the more safe method of delivery in such patients.

O – 0027 | ORAL | DIABETES IN PREGNANCY

PHARMACOGENETIC APPROACH TO EVALUATION OF ANTIHYPERTENSIVE THERAPY EFFECTIVENESS AMONG TYPE 1 DIABETES MELLITUS PATIENTS DEPENDING PREECLAMPSIA AND ACE (INSERTION/DELETION POLYMORPHISM) GENE

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Abstract:

Objectives: RAS had been implicated to play an important role in preeclampsia (PE) development and glycemic control, in our previous investigations we hypothesized and further proved strong association between ACE gene I/D polymorphism and PE in patients with type 1 diabetes mellitus (T1DM). The objective of this study was to establish pharmacogenetic peculiarities of ACE (I/D) gene polymorphism in blood pressure (bp) control and effectiveness of antihypertensive therapy within T1DM patients.

Methods: Inclusion criteria were as follows: T1DM preceding pregnancy (classes B to T according to White classification); PE development during current pregnancy; singleton pregnancy; informed consent. Exclusion criteria included: chronic hypertension; molar fetal hydrops; multiple pregnancy; smoking. 30 patients who met eligibility criteria underwent standard investigation and genetic testing of ACE (I/D) gene polymorphism (allele-specific PCR investigations). Obtained results were analyzed with two-sample t-test using Statistica 10.0 software.

Results: Significantly ($p<0,05$) higher pre-treatment mean levels of systolic and diastolic blood pressure (SBP/DBP) were registered in carriers of ID- (148,80±4,00/94,89±1,69 mm hg) and DD-genotypes (152,50±6,01/100,00±5,77), as compared to patients with II-genotype (139,50±0,50/87,50±2,50). Terms for first-line medication prescription (alpha-2-receptor agonist - methyldopa) differed significantly depending on ACE gene genotype. II-genotype carriers started therapy with methyldopa much ($p<0,05$) later (209,5±19,62 days) than patients with ID- (201,56±13,74) and DD-genotypes (148,12±21,15). Time from first-line medication initiation to blood pressure normalization (to borderline safe levels in pregnancy) was the shortest (1,50±0,50 days) in II-genotype carriers with further statistically significant D-allele dependent increase in patients with ID- (4,60±2,46) and DD-genotypes (13,67±1,33) ($p<0,05$, for all comparisons). Polymorphic variants of ACE gene influenced the mean terms for second-line therapy prescription (calcium channel blockers). Second-line medications of DD-genotype carriers was shorter time after prescription of first-line therapy (12,33±1,86 days) as compared to patients with ID- (24,57±6,82) and II-genotype (77,00±16,00) ($p<0,05$).

Treatment with first-line therapy resulted in significant decrease of SBP only in II-genotype carriers (from mean initial level of 139,50±0,50 to 120,00±2,50 mm hg; $p<0,05$). On the contrary, the magnitude of SBP changes wasn't such pronounced in patients with ID- (from 159,29±4,93 to 148,80±4,00) and DD-genotypes (from 160,00±5,06 to 152,50±6,01). Similar tendency was noted for DBP changes in response to first-line therapy which were found to be associated with investigated genotypes: II – from 87,5±2,5 to 80±5 mm hg ($p<0,05$); ID - 101,43±4,04 to 94,89±1,65; DD – from 103,00±7,00 mm hg to 100,00±5,77. Second-line treatments significantly ($p<0,05$)

reduced mean values of SBP/DBP regardless of genetic features, but with genotype-specific differences in time to blood pressure normalization. II-genotype carriers had therapeutic effect within 1 day after initiation of second-line therapy ($p<0,05$). Longer time to normalization was required in ID- (3,67±1,36 days) and DD-genotypes (8,5±2,5) patients.

Conclusions: Presence of D-allele necessitated earlier prescription of first- and second-line therapy and required more prolonged time to achieve appropriate therapeutic effect. This observation may precipitate new approaches to antihypertensive therapy in this subpopulation of patients (reevaluation of antihypertensive therapy initiation criteria and use of drug combinations as initial first-line therapy for D-allele carriers).

Key words: diabetes mellitus, ACE gene, preeclampsia treatment

O – 0028 | ORAL | DIABETES IN PREGNANCY

RELATIONSHIP BETWEEN MATERNAL BLOOD GLUCOSE CONTROL AND CORPORAL COMPOSITION OF NEWBORNS OF DIABETIC PREGNANT WOMEN

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Abstract:

Objectives: The aims of this study were to analyze the influence of glycemic control in diabetic pregnant women and the maternal BMI during third trimester in the corporal composition of the neonate.

Materials and methods: A prospective study including 13 cases of diabetic pregnant women was used as preliminary data to conduct a research study which was started in 2016 at the University Hospital "Virgen de las Nieves" in Granada. A descriptive study of maternal and newborn data was performed. The newborn were evaluated within 48 hours of birth using air displacement plethysmography with Pea Pod ®. The baby's weight is measured on a bascule; the volume of the body and the calculation of corporal composition are then performed in a chamber. This method uses the laws of gases to determine corporal volume. The correlation between the third trimester maternal HbA1C and the % of fat mass, kg of fat mass, corporal volume and thoracic volume was then calculated, along with the correlation between the BMI and the variables above mentioned.

Results: the mean age of the patients was 33±6 years, mean height was 1.58±0.05 m, mean BMI was 30.5±6.8, mean increasing gestational weight was 7±3kg and mean third trimester HbA1C was 5.8±0.8. 70% were diagnosed with gestational diabetic, 20% were treated with insulin.

The mean number of gestation weeks before birth was 39±1, the mean weight of the newborns was 3659±663g, mean length was 50±3cm, mean Apgar score at 1' and at 5' was 8±1, mean umbilical arterial pH was 7,24, mean cephalic circumference was 34±1cm. The Spearman correlation coefficient was calculated between the third trimester HbA1C and the % of fat mass (r=0.15), kg of fat mass (r=0.26), body volume (r=0.46) and thoracic volume (r=0.3), with none of the correlations being statistically significant. The same analysis was performed between BMI and fat mass(r=-0.09), kg of fat mass(r=0), corporal volume(r=0.35) and thoracic volume(r=0, 3), with none of the correlations being statistically significant.

Conclusions: the patients analyzed had a BMI corresponding to overweight, but with a weight gain within normal limits (established between 7-11 kg for a BMI> 25) and adequate control of diabetes during gestation (HbA1C mean <6%), which could justify that the correlations between the HbA1C and the BMI with the anthropometric values of the newborn were not significant. Good control of diabetes could also explain normality in neonatal parameters. A larger sample size is required to obtain significant results, this is the preliminary data from a larger prospective study.

O – 0029 | ORAL | DIABETES IN PREGNANCY

INCIDENCE OF IRON DEFICIENCY IN NEONATES OF DIABETIC MOTHERS

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Abstract:

INTRODUCTION: Iron deficiency (ID) is the most common nutritional deficiency in the world. The most frequent conditions that affect Iron adequacy in the perinatal period are: IDA mother, smoking, hypertension, intrauterine growth retardation (IUGR), diabetes mellitus (DM) and prematurity. The ID at fetal, neonatal and infant's period may lead to disbalance of many functions and systems and cause irreversible disturbances in central nervous system (CNS) development-structure, neuron morphology, dendrogenicity, synaptogenesis. Iron homeostasis is critical for the expression of neurotrophic factors. Ferritin levels in fetus are increased from 63μg/l at 23/weeks to 171μg/l at 41weeks. Ferritin from the umbilical cord blood (UCB) is the best expression of Fe's stores of the fetus. In the literature, 5-10% of all pregnancies are complicated by DM of which 20%-65% of neonates presenting with perinatal ID. OBJECTIVES: Determination the incidence of perinatal ID in neonates of diabetic mothers (NDM) with gestational age (GA)>34.

METHODS: We performed a prospective study on the evaluation the iron stores in NDM with GA>34weeks from 8th/2016-7th/2017. The evaluation was performed by determination in UCB the levels of ferritin, CRP, Hct and RET. Data collected include: mode of delivery, GA, gender, Apgar score, maternal drugs, steroid administration, Iron supplement (IS) and diet during pregnancy. Neonates of mothers with pre-eclampsia, smoking, severe anemia, chorioamnionitis, as well as IUGR, SGA neonates and with early onset sepsis were excluded.

RESULTS: Out of 1643 deliveries, 95(5,7%) were from women with DM; 57 of them participated in our study (informed consent provided). Nine neonates were excluded (8 had GA<34w and one early onset sepsis). Of 48 newborns, latent ID (umbilical cord ferritin <75μg/l) was found in 4(8,3%) newborns, one of which was severe (<40μg/l). Only 2 pregnant women with DM did not received IS.

O – 0030 | ORAL | DOPPLER AND MRI FOR IUGR

PROGRESSION OF MULTI-VESSEL DOPPLER STUDIES IN FETUSES WITH GROWTH RESTRICTION

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Abstract:

Fetal growth restriction(FGR) represents a challenge because diagnostic certainty of its cause is difficult to reach. The purpose of the obstetricians is to identify early FGR and plan the management according to the severity of the condition and the gestational age.

Umbilical artery(UA) Doppler study has significant diagnostic efficacy in identifying fetal compromise, representing the gold standard in managing FGR. An increased Doppler index above the 95th percentile for the gestational age, absent or reversed end-diastolic flow, is nonassuring.

Doppler study of the uterine artery(Ut. A), performed in low risk-women, can be a valuable predictior for FGR if an increased pulsatility index(PI), alone or combined with notching, is found. In high-risk patients, an increased resistivity index(RI) alone is considered better predictor for FGR.

Changes in the cerebral blood flow can be detected by Doppler sonography of the middle cerebral artery(MCA). Abnormal cerebral vasodilation and consequent decrease in vascular resistance are depicted by a decrease in the PI or RI below the 5th percentile.

Ductus venosus(DV) Doppler is used in the assessment of FGR when UA Doppler is abnormal. A PI greater than 1 between the 2nd trimester and term is considered abnormal. Absence or reversal of flow during fetal atrial contraction is suggestive for inadequate supply of oxygen to vital organs.

The progression of multi-vessel Doppler studies indicating placental dysfunction points out the following events: elevated UA sistole/diastole ratio, MCA PI < 5th percentile, UA – absent followed by reversed diastolic flow, DV - elevated PI followed by reversed a-wave, umbilical vein double/triple pulsations.

Multi-vessel Doppler ultrasonography may be the starting point in establishing the management algorithm for FGR. The combined use of fetal biometry, cardiotocographic patterns, amiotic fluid volume, biophysical profile is complementary in detecting fetal compromise.

O – 0031 | ORAL | EDGE OF VIABILITY

SURVIVAL OF EXTREMELY LOW GESTATIONAL AGE NEONATES

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Abstract:

Objectives: Data about survival and outcome of extremely low gestational age neonates show significant variations depending on country's development stage. Management of this very vulnerable group of infants is tied to high short-term and long-term treatment expenses, it demands good technological equipment and highly trained staff. According to country's development stage, recommendations for management of extremely immature infants vary widely. Consent about palliative care of 22 gestational weeks infants, and active treatment of 25 gestational weeks infants is generally accepted. Recommendations about management of 23 and 24 gestational weeks infants still represent a "grey zone".

Methods: Retrospective analysis of data collected from medical documentation.

Results: Admission and survival rates data of extremely immature infants gestational age less than 28 weeks during the period from January 2012. until December 2016. in Intensive Care Unit of Institute for neonatology, Belgrade were analyzed. During the period 2012-2016., share of extremely immature infants rose from 21.8% (113/516) in 2012. to 37.9% (182/479) in 2016. Survival of infants in group of 26 and 27 weeks gestational age in 2012. was 52.3% (34/65), and 74.3% (75/103) in 2016. In group of 24 and 25 weeks gestational age in 2012. survival rate was 37.8% (14/37) and 46.4% (26/56) in 2016. In group of 23 weeks of gestational age there were no survivors in 2012., while 17.3% (4/23) survived in 2016. During the five year period 23 infants of gestational age 21 and 22 weeks were admitted, there were no survivors.

Conclusions: During the five year period, from 2012. to 2016., share of admitted extremely immature infants significantly increased, as well as survival rate at all gestational age.

Key words: extremely immature infants, stage of country development

O – 0032 | ORAL | EDGE OF VIABILITY

OUTCOMES OF PREMATURE INFANTS UNDER 28 GESTATIONAL AGE

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Abstract:

Background. Incidence of infants born before 28 weeks gestation (WG) or extremely preterm infants (EPI) is in growth. We aim to evaluate the outcomes of EPI to facilitate formulation of perinatal guidelines and counseling.

Methods: A monocentric prospective observational study in resuscitation and intensive care unit of neonatology of the military hospital of Tunis between 2008 and 2015, including live births between 22 and 27 WG and 6 days. We evaluated neonatal characteristics, health care practices, morbidity, mortality and neurological development at the age of 2 years.

Results: We recorded 73 EPI (6.2‰ of total hospitalizations). EPI were born from multiple pregnancies in 32.9% cases and from assisted reproductive technologies in 20.5%. The average term was 26 WG and 5 days, the mean birth weight was 966 g. We noted a high rate of mortality (80%) respiratory morbidity (96%). For 19.2% of EPI, decision of limiting health care was taken. All newborns under 25 WG died. Three survivors developed cerebral pulsy.

Conclusion: Being in a low incomes country we recommend to limit health care for EPI under 25 WG concidering the high risk of mortality and poly handicap. Ethic problems are to be considered between 25 and 26 WG.

Key-words: extremely preterm, infant, mortality, morbidity.

O – 0033 | ORAL | FETAL BIOMETRY FOR GROWTH DISORDERS

PROGNOSTIC VALUE OF THE BLOOD FLOW GRADIENT IN THE RENAL AND BRAIN ARTERIES OF THE FETUS IN ACCORDANCE WITH ITS SEXUAL DIMORPHISM IN FETAL GROWTH RETARDATION DEVELOPMENT

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Abstract:

Aim of the study. The purpose of this study was to search for and develop prognostic doppler markers of fetal growth retardation based on a study of the nature of renal and cerebral blood flow in fetuses, taking into account their gender at different stages of physiological and complicated pregnancy.

Methods. 180 women with a physiological pregnancy and 115 women with IUGR and placental disorders were examined. All pregnant women underwent ultrasound and doppler examination of blood flow in the uterine, umbilical, middle cerebral, right and left renal arteries of the fetus and fetal aorta (systolic-diastolic and pulsation indices were determined). The research was carried out in the period of 20-40 weeks. All studies were performed on an ultrasonic device "Voluson E8 Expert" (Germany).

Results. Statistically significant gradual decrease in the systolic-diastolic ratio and pulsation index was noted in the fetal renal arteries in the dynamics of the II and III trimesters of physiological pregnancy, indicating an increase in the intensity of renal blood flow by 37% in males and 25% in females' fetuses. There was a growing vasospasm of the renal arteries, predominantly in male fetuses, in women with placental abnormalities and fetal growth retardation, accompanied by a 46% decrease in the intensity of renal blood flow and an increased risk of pathological centralization of blood circulation, mainly in male fetuses. In patients with physiological pregnancy, the gradient of the blood flow parameters,that was equal to 1, between the middle cerebral and renal arteries of the fetus was registered at the period of 20-21 weeks. When the magnitude or sign of this index changed, the parameters of the biophysical profile deteriorated and fetal growth delayed in the III trimester and, as a result, the percentage of unfavorable outcomes of pregnancies and births increased.

O – 0034 | ORAL | PLACENTA PROBLEMS

A RARE CASE OF TRIPLOID PLACENTAL MESENCHYMAL DYSPASIA COMPLICATED BY ECLAMPSIA

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Abstract:

Placental mesenchymal dysplasia (PMD) has an estimated incidence of 0.02%. The essence of the disease is placentomegaly and grape-like placental vesicles. As the similarity of the ultrasound image between PMD and molar pregnancy is substantial, it is vital to properly differentiate those two conditions. 25 years old woman in second pregnancy had no abnormalities detected on first trimester ultrasound scan. The calculated risk of trisomy was low. The ultrasound scan at 19 weeks revealed a single female fetus with no anatomical abnormalities. Abnormal, "jelly-like placenta" with numerous cysts was observed. At 25 weeks intrauterine growth restriction with abnormal Doppler was diagnosed and the patient was referred to the hospital. During hospitalization the blood pressure was normal and deterioration in Doppler scan was observed. The patient was administered intramuscular betamethasone. At 27 weeks abnormal cardiotocography was found. Due to imminent fetal asphyxia, female newborn weighting 740 grams was promptly delivered via cesarean section. Placenta contained numerous cysts (diameter up to 4 cm). The placenta karyotype was triploid (69 XXY), while the newborn karyotype was diploid (46 XX). Histopathological examination indicated PMD. Maternal serum βHCG level was not elevated (5 mIU/mL). Early postoperative period was complicated by hypertension of 200/100 mmHg and two eclampsia attacks. The patient received hypotensive and anticonvulsive treatment and magnesium sulfate infusion. Computer tomography examination revealed hypodense change in frontal lobe. The patient was transferred to neurological intensive care unit, where she was diagnosed with posterior reversible encephalopathy syndrome (PRES) on MRI. Abnormal placentation, including PMD is related to a higher risk of preeclampsia and eclampsia. It should be borne in mind that pregnant women with pregnancies complicated with PMD are at increased risk of eclampsia and pulmonary embolism and, therefore, they ought to be provided with adequate information and intense pregnancy monitoring.

O – 0035 | ORAL | FETAL BIOMETRY FOR GROWTH DISORDERS

MATERNAL BODY MASS INDEX CHANGE AS A NEW PREDICTOR OPTIMAL GESTATIONAL WEIGHT GAIN IN UNDERWEIGHT WOMEN

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Objectives: Optimal gestational weight gain has not yet been clearly defined and remains one of the most controversial issues in modern perinatology. The role of optimal weight gain during pregnancy is critical, as it has a strong effect on perinatal outcomes. In the present study, gestational body mass index (BMI) change, accounting for maternal height, was investigated as a new criterion for gestational weight gain determination, in the context of fetal growth assessment. We had focused on underweight women only, and aimed to assess whether the Institute of Medicine (IOM) guidelines could be considered acceptable or additional corrections are required in this sub-group of women.

Methods: The study included 1,205 pre-pregnancy underweight mothers and their neonates. Only mothers with singleton term pregnancies (37th to 42nd week of gestation) with pregestational BMI <18.5kg/m2 were enrolled.

Results: The share of small for gestational age (SGA) infants in the study population was 16.2%. Our results showed the minimal recommended gestational weight gain of 12-14 kg and BMI change of 4-5 kg/m2 to be associated with a lower prevalence of SGA newborns. Based on our results, the recommended upper limit of gestational mass change could definitely be substantially higher.

Conclusion: Optimal weight gain in underweight women could be estimated in the very beginning of pregnancy as recommended BMI change, but recalculated in kilograms according to body height, which modulates the numerical calculation of BMI. Our proposal presents a further step forward towards individualized approach for each pregnant woman.

O – 0036 | ORAL | FETAL ECHOCARDIOGRAPHY

ANATOMICALLY CORRECTED MALPOSITION OF GREAT ARTERIES: A CHALLENGE FETAL DIAGNOSIS

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Abstract:

Background: Anatomically corrected malposed great arteries is an uncommon and benign entity. Basically, this occurs with ventriculoarterial concordance in which the great vessels arise parallel instead of a twisting fashion. In the 70's, Van Praagh et al. profiled the term malposed arteries to describe conditions with abnormal relationship of great arteries, even in hearts with ventriculoarterial concordance.

Case reports: Case 1A low-risk pregnant woman was to referred to a fetal cardiologist because of suspected transposition of great arteries. The fetal echo showed atrioventricular and ventriculo-arterial concordance, however, the great arteries ran in parallel. As the suspicion of TGA, the delivery was planned in a hospital that can efficiently execute the management of these potentially critically ill newborns, including either planning for the possibility of urgent balloon atrial septostomy. After delivery, the echocardiogram showed the malposed great arteries which were related to their appropriated ventricles. Case 2: A healthy pregnant woman was referred to a fetal cardiologist due to a suspect of congenital heart disease. The fetal echocardiogram performed at 36 weeks´ gestation suspected the diagnosis of transposition or malposition of great arteries. A transthoracic echocardiogram performed after birth revealed atrioventricular and ventriculo-arterial concordance, with malposition of the great vessels that ran in parallel. The aorta was right-sided and posterior to the pulmonary artery, which had an unusual shaped curvature of the latter one. The CT angiography confirmed the left-sided aortic arch with an inverted S-shape of the aorta.

Conclusion: Anatomically corrected malposed great arteries is a very rare condition in which the aorta arises from left ventricle with the great vessel in parallel instead crossing each other. During fetal life, this condition is misdiagnosed as a transposition of great arteries and the accurate diagnosis remains a challenge.

Keywords: great arteries, fetal, echocardiography

O – 0037 | ORAL | FETAL ECHOCARDIOGRAPHY

REFERENCE VALUES FOR THE LEFT VENTRICLE MODIFIED MYOCARDIAL PERFORMANCE INDEX (MPI) BETWEEN 20 AND 36+6 WEEKS OF GESTATION IN A BRAZILIAN POPULATION

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Abstract:

Objective: To establish reference range for the left ventricle modified myocardial performance index (MPI) measurement between 20 and 36 + 6 weeks of gestation in a Brazilian population.

Methods: We performed a cross-sectional study evaluating 253 low risk singleton pregnant women with body mass index (BMI) between 18.5 and 29.9 kg/m^2, and gestational age between 20 and 36+6 weeks. Modified myocardial performance index (Mod-MPI) was calculated as the following formula: (isovolumetric contraction time + isovolumetric relaxation time)/ejection time. Polynomial regression was used to obtain the best-fit using MPI measurements and gestational age (GA) with adjustments using determination coefficient (R2). Mod-MPI percentiles 5th, 50th and 95th were determined for each gestational age.

Results: MPI measurements did not modify significantly with gestational age (p=0.07). The observed percentiles for the Mod-MPI measurements considering all number case were the following: 5th, 0.36 mseg; 50th, 0.45 mseg; and 95th, 0.57 mseg. A best-fit curve for each percentile was a first-degree polynomial regression: p50 = 0.424+0.0014*GA; p5 = 0.353+0.0002*GA; p95 = 0.495+0.0025*GA (R^2= 0.013).

Conclusions: Reference values for the fetal Mod-MPI measurements between 20 and 36+6 weeks of gestation in a Brazilian population were established.

Keywords: Myocardial Performance Index; Fetal heart; Reference range

O – 0038 | ORAL | FETAL ECHOCARDIOGRAPHY

REFERENCE VALUES FOR THE TRICUSPID, MITRAL AND SEPTAL ANNULAR PEAK SYSTOLIC EXCURSION (TAPSE, MAPSE & SAPSE) BETWEEN 20 AND 36+6 WEEKS OF GESTATION IN A BRAZILIAN POPULATION

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Abstract:

Objective: To establish reference range for the tricuspid, mitral and septal annular peak systolic excursion (TAPSE, MAPSE & SAPSE) between 20 and 36 + 6 weeks of gestation in a Brazilian population.

Methods: We performed a cross-sectional study evaluating 253 low risk singleton pregnancies with body mass index (BMI) between 18.5 and 29.9 kg/m^2, and gestational age between 20 and 36+6 weeks. M-mode measured the tricuspid, mitral and septal annular peak systolic excursion (TAPSE, MAPSE & SAPSE). Polynomial regression was used to obtain the best-fit using MPI measurements and gestational age (GA) with adjustments using determination coefficient (R2). Mod-MPI percentiles 5th, 50th and 95th were determined for each gestational age.

Results: TAPSE, MAPSE & SAPSE (mm) showed a progressive increased with gestational age. The mean of TAPSE ranged from 3.98 to 8.14 mm (R2=0.68; p<0.0001). The mean of MAPSE ranged from 3.01 to 5.73 mm (R2=0.48; p<0.0001). The mean of SAPSE ranged from 3.92 to 5.84 mm (R2=0.36; p<0.0001).

Conclusions: Reference values for the fetal TAPSE, MAPSE & SAPSE measurements between 20 and 36+6 weeks of gestation in a Brazilian population were established.

Keywords: Myocardial tissue Doppler; Long axis function; Fetal heart, reference range

O – 0039 | ORAL | FETAL ECHOCARDIOGRAPHY

ASSESSMENT OF CARDIAC FUNCTION PARAMETERS IN TYPE I AND TYPE II DIABETES MELLITUS

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Abstract:

Objective: To assess the fetal cardiac function in type I and type II diabetic pregnant women and normal singleton pregnancies.

Methods: cross-sectional study with 310 singleton pregnant women between 20w0d and 36w6d of gestation, which were divided in two groups: 57 diabetic pregnant women and 253 normal pregnancies. Modified myocardial performance index (Mod-MPI) was calculated. M-mode measured the tricuspid, mitral and septal annular peak systolic excursion (TAPSE, MAPSE & SAPSE). Peak myocardial velocity was measured during systole (S'), early (E') and late diastole (A') using spectral tissue Doppler. Results were analyzed by using Mann-Whitney test and general linear model, adjusting by GA and EFW.

Results: GA (36.0 vs. 27.7 weeks, p<0.01) and EFW (1384 vs. 974 grams, P=0.01) were significantly higher in diabetic pregnant women than controls. When adjusting for GA and EFW, we identified significant differences between groups on the following parameters: Left Mod-MPI (0.52 vs. 0.46, P<0.001); peak myocardial velocities on LV: E' (6.06 vs. 5.24 cm/seq, p<0.001), A' (9.57 vs. 7.61 cm/seg, p<0.001), S' (6.28 vs. 5.29 cm/seg, p<0.001); peak myocardial velocities on septum: S' (5.24 vs. 4.70 cm/seg, p=0.01).

Conclusions: Fetuses of type I and type II diabetes mellitus pregnant women have shown LV, and Septum systolic and diastolic dysfunction.

Keywords: Cardiac Function; Myocardial tissue Doppler; Myocardial Performance index; Fetal heart; Diabetes mellitus

O – 0040 | ORAL | FETAL DNA SCREENING

NON-INVASIVE PRENATAL TESTING (NIPT) FOR COMMON CHROMOSOMAL ANEUPLOIDIES: DATA FROM A SINGLE CENTER IN A ROUTINE SCREENING POPULATION

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Abstract:

Objective. Non- invasive prenatal testing (NIPT) by analysis of cell-free DNA (cfDNA) from maternal blood has shown promise for highly accurate detection of common fetal trisomies. We assesed the performance of NIPT for common chromosomal aneuploidies screening in a routine pregnant population from a sinle center in Zagreb.

Methods. We present the results of prenatal cfDNA testing in a period from 25.03.2013. Until 20.02.2017. in a private Hospital in Zagreb. Of total 612 pregnant women on which cfDNA testing was performed, 6 were twin pregnancies. All samples were analyzed using massively parallel sequencing, in clinical laboratory of BGI –Shenzen, China.

Results. In 463 pregnant women (76%) advanced maternal age was the main reason for testing. Results were available in 611 cases (99,8%), with only one 'no call' result, and 6 needed resampling (redraw rate 0,9%). Among 13 (2,1%) High risk results there were 8 Trisomies 21, 2 Trisomies 18, 1 Trisomy 13, 1 45X0, and one CriDu Chat. All cases of T21, 1 case of T18 and T13 were confirmed by karyotyping (specificity for T21 is 100%). 2 women with high cf-DNA test result for T18 had miscarriage before karyotyping. A suspected 5p deletion was not confirmed by microarray method. There was one case of false negative T21, resulting in sensitivity for T21 of 99,8%.

Conclusion. The performance of screening for Trisomy 21, 18, 13 and sex chromosome aneuploidies by cf-DNA testing using massively parallel sequencing is most effective screening method with high detection rates and low false-positive and false-negative rates. Our results show extremely low redraw and 'no call' rate.

O – 0041 | ORAL | HIGH RISK PREGNANCIES

A TEN-YEAR STUDY ON PERIPARTUM CARDIOMYOPATHY IN A CLINICAL HOSPITAL CENTRE SPLIT, CROATIA

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Abstract:

Objectives. Peripartum cardiomyopathy (PPCM) is a rare and infrequently reported form of congestive heart failure of poorly elucidated etiology presenting late in pregnancy up to five months postpartum. Mild symptoms of the PPCM are often masked by physiological changes of pregnancy which can mimic clinical findings of heart failure and make the proper diagnosis of PPCM challenging. Our aim was to study the pattern of presentation, course of disease and outcome of pregnancies complicated with PPCM among women who gave birth at regional hospital and referral center in Croatia.

Methods. A retrospective case study was conducted at Clinical Hospital Centre Split, Croatia, on all patients admitted and diagnosed with PPCM from 1st of January 2007 to 31st of December 2016. Analyzed data included age, parity, gestational age, presentation of the disease, risk factors, and pregnancy outcome. All of the patients gave birth at the same hospital.

Results. During the ten-year study period there were nine patients with PPCM recorded. The prevalence of PPCM was 19, 96 in 100,000 (1 in 5009 deliveries) . The onset of PPCM was prior delivery in four patients (44, 4%), and in remaining five it was diagnosed in first week of puerperium. Five women (55, 6%) were primigravidae. Interestingly, no one had pre-eclamsia or co-existing hypertension. One patient had pneumonia and the other one had heavy postpartal bleeding due to obstetric reasons. Two patients had a history of previous heart disease of a different kind. One third of patients had twin pregnancy. 7/9 (77, 8 %) patients were delivered via Cesarean section. Seven out of nine patients (77, 8%) survived, with total recovery of ventricular function. After 1 year of follow-up all seven survivors were symptom free with a normal ventricular function. Two out of nine patients died (22, 2%).

Conclusion. PPCM should be suspected in late pregnancy and puerperium in all symptomatic patients, even those with discrete complaint, due to high mortality rate in delayed diagnosis and treatment. The patient should be promptly referred to echocardiography, which is crucial for diagnosis. In our study we did not identify any risk factors which could be considered as reliable predictors of PPCM

O – 0043 | ORAL | FETAL MEDICINE

AMNIOTIC FLUID ERYTHROPOIETIN IN TERM AND POST-TERM BIRTHS

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Abstract:

Objectives: Children born post-term (≥42 gestational weeks) are at increased risk of perinatal asphyxia, which can lead to excessive perinatal morbidity, mortality, and neurologic complications. Erythropoietin (EPO), a hormone regulating erythropoiesis, is a biomarker of chronic hypoxia. In various complicated pregnancies EPO levels in fetal plasma and amniotic fluid are elevated. High EPO levels are associated with increased risk of acute adverse neonatal outcome, such as decreased umbilical artery pH and base excess (BE), and increased risk for intensive care unit admission. The objective of this study was to evaluate amniotic fluid EPO levels in uncomplicated term and post-term pregnancies, and to find out if amniotic fluid EPO could predict neonatal primary outcome.

Methods: The study population consisted of 101 uncomplicated pregnancies with vaginal delivery. Amniotic fluid samples were collected vaginally at the time of labour induction by amniotomy between 37+4 and 42+2 weeks of gestation. Concentrations of amniotic fluid EPO were quantitated by immunochemiluminometric assay. Normal amniotic fluid EPO level was defined as < 3 IU/l and abnormal as > 27 IU/l. Primary neonatal outcomes were umbilical artery pH and BE, and Apgar score at one and five minutes.

Results: Post-term births comprised 33.7% (n = 34) of the total study population. The median concentration of amniotic fluid EPO was 5.9 IU/l (range 0.5 – 58.2 IU/l). Amniotic fluid EPO levels were higher among post-term pregnancies as compared to term pregnancies ($p = 0.045$). Gestational age at birth correlated with amniotic fluid EPO ($r = 0.314$, $p = 0.001$), umbilical artery pH ($r = -0.222$, $p = 0.027$), and umbilical artery BE ($r = -0.247$, $p = 0.014$). Amniotic fluid EPO was not associated with umbilical artery pH ($p = 0.671$) or BE ($p = 0.758$). There were only few neonates with low Apgar score <7 at one and five minutes in the study population (n = 5 and n = 0, respectively). Amniotic fluid EPO was not associated with low Apgar score.

Conclusions: Amniotic fluid EPO levels were associated with gestational age and were higher among post-term births as compared to term pregnancies. This is probably due to gradually deteriorating placental function along with advancing gestation. However, amniotic fluid EPO levels did not predict acute adverse neonatal outcome, possibly reflecting efficient fetal compensatory mechanisms in these uncomplicated pregnancies.

O – 0044 | ORAL | FETAL MEDICINE

BLOOD CONTAMINATION OF AMNIOTIC FLUID DURING AMNIOCENTESIS - INCIDENT, ACCIDENT OR COMPLICATION

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Abstract:

Amniocentesis is the most commonly performed invasive prenatal diagnostic procedure. The relative simplicity of the method has made amniocentesis available in a large number of centres. Amniocentesis may increase the risk of fetomaternal hemorrhage (FMH) due to needle transfixation of the maternal abdomen skin to the amniotic membrane and sometimes the placenta.

There is an increase in FMH after performing amniocentesis, but there is no consensus regarding the best method to monitor the safety of these procedure. Flow cytometry immunophenotyping, using a monoclonal antibody against fetal hemoglobin, has become an interesting alternative to classical Kleihauer test to measuring FMH.

Blood contamination of amniotic fluid (AF) during amniocentesis correlates directly with: needle thickness, physician experience, number of puncture points taken for sample acquisition, placental location.

The puncture needle is recommended to have a thickness between 20-23 gauge (G).. Maternal cell contamination is prevented by discharging the first 2 ml of each sample.
Another factor affecting safety of amniocentesis is the volume of procedures performed by the operator. High volume experience is reported to have decisive impact on rates of procedure-related adverse outcomes

The impossibility of AF extraction at the first puncture requires its repetition, which increases the risk of AF contamination. From this point of view, it is extremely important to identify before the procedure the most voluminous AF bags, but also to choose a tract that avoids the transplacental passage.

Placement of the placenta on the anterior wall increases the risk of AF contamination compared to the back or posterior wall location.

Regarding the isoimunisation risc after amniocentesis, when a FMH occurs with less than 0.1 ml, isoimmunization at six months after delivery is 3%.

Amniocentesis is safe to be carried out in fetal medicine when is followed by standard methods and conducted by trained professionals.

O – 0045 | ORAL | FETAL MEDICINE

PERINATAL OUTCOME OF BORDERLINE OLIGOHYDRAMNIOS

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Abstract:

Brief Introduction. Oligohydramnios is associated with a high rate of peripartum complications and a high perinatal morbidity rate. Our aim was to assess the perinatal outcome of cases with midtrimester borderline oligohydramnios without preterm premature rupture of membranes (PPROM).

Materials and Methods. Our Hospital is a referral center for high-risk pregnancy. During the last five years (2009-2014) all cases with unexplained borderline oligohydramnios were reviewed. The age, parity, obstetric or medical history, investigations, treatment, mode of delivery and perinatal outcome were examined and found from the medical records. Only women with a diagnosis made before 34 weeks were incuded in the study. We excluded from analysis women with PPROM, fetal congenital anomalies, preeclampsia, fetal growth restriction, Potter syndrome, and maternal anti-inflammatory treatment.

Results. During the above mentioned period 23 women with unexplained (idiopathic) borderline oligohydramnios were found. The mean maternal age was 30.3 years. The mean gestational age at diagnosis was 29.6 weeks (range: 27-34 weeks). No other ultrasonographic findings were found in any of them. 19 women were hospitalized for more than a week, while the others entered the Hospital a few days before delivery. All hospitalized women were monitored with daily CTG and biophysical profile twice per week. The mean gestational age at delivery was 36.2 weeks (range 33-39 weeks). Eight women delivered with normal vaginal delivery and 15 others with an elective cesarean section. Eleven women were induced and six of them gave birth vaginally, while the other five with an emergency cesarean section.

Conclusions. Our experience with unexplained borderline oligohydramnios showed that the perinatal outcome was good, although a high cesarean section rate was observed. Close maternal and fetal surveillance and timely delivery, either by labor induction or by an elective cesarean section are necessary.

O – 0046 | ORAL | FETAL MEDICINE

STIMULATION OF DELIVERY AFTER PREMATURE RUPTURE OF MEMBRANES, A COMPARISON OF DIFFERENT PROSTANGLANDIN E2 ROUTES OF ADMINISTRATION

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Abstract:

Premature rupture of membranes is a complication of pregnancy that significantly increases fetal and neonatal morbidity.

Of all term deliveries, about 10% start with premature rupture of membranes without contractions. Further labour management in such cases can be conservative, or proactive with the stimulation of contractions and cervical ripening. Conservative management is linked to a higher occurance rate of intraamniotic infections and complications due to decrease of amniotic fluid volume, whereas labour stimulation increases the rate of uterine hyperstimulation and consequent fetal distress and chance of operative deliveries. Drugs most often administered for labour stimulation and cervical ripening are prostanglandin E derivates. Intravenous compared to vaginal route of administration has been claimed to have a higher chance of various prostanglandin side effects, such as hyperpyrexia, cramps, nausea and vomiting, diarrhea and troubles in breathing. Thus, the vaginal route of administration is preferred.

The aim of this study was to compare our results in stimulation of contractions and cervical ripening in deliveries with premature rupture of membranes, without contractions and unfavorable Bishop score with the results described in current literature. Our main method of labour stimulation was through a continuous intravenous infusion of prostanglandin E2.

The study included all women with singleton pregnancies of 37 or more weeks of gestation, admitted to Clinic with proven PROM from 2003 to 2006. Patients included had a Bishop score of 5 or less and were without contractions regardless of parity, age, race, ethnicity, fetal presentation and time from membrane rupture. Observed parameters were: time interval from PROM to delivery and from start of prostanglandin stimulation to delivery, administration of antibiotics and analgesia in delivery, occurrence of fever or other prostanglandin complications during labour, way of delivery, neonatal apgar score and pH of umbilical cord blood and infections in early neonatal period.

O – 0047 | ORAL | FETAL ECHOCARDIOGRAPHY

REFERENCE VALUES FOR THE LEFT, RIGHT AND INTERVENTRICULAR SEPTUM PEAK MYOCARDIAL TISSUE DOPPLER VELOCITIES (MTD) BETWEEN 20 AND 36+6 WEEKS OF GESTATION IN A BRAZILIAN POPULATION

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Abstract:

Objective: To establish reference range for the left ventricle (LV), right ventricle (RV) and interventricular septum (IVS) peak myocardial tissue Doppler velocities (MTD) using spectral tissue Doppler between 20 and 36 + 6 weeks of gestation in a Brazilian population.

Methods: We performed a cross-sectional study evaluating 253 low risk singleton pregnancies with body mass index (BMI) between 18.5 and 29.9 kg/m^2, and gestational age between 20 and 36+6 weeks. MTD during systole (S'), early (E') and late diastole (A') were performed with the sample volume placed at the basal segment of the LV side wall, the IVS and the RV free wall. Polynomial regression was used to obtain the best-fit using MPI measurements and gestational age (GA) with adjustments using determination coefficient (R2). Mod-MPI percentiles 5th, 50th and 95th were determined for each gestational age.

Results: All myocardial tissue Doppler velocities (cm/sec) showed a progressive increased with gestational age ($p<0.0001$). The mean LV MTD ranged from: S' (4.25 to 6.81), E' (3.51 to 7.19) and A' (6.76 to 9.16). The mean RV MTD ranged from: S' (4.89 to 7.93), E' (4.40 to 9.04) and A' (8.39 to 11.43). The mean IVS MTD ranged from: S' (3.92 to 5.84), E' (3.41 to 5.81) and A' (5.99 to 8.07).

Conclusions: Reference values for the fetal LV, RV and IVS MTD measurements between 20 and 36+6 weeks of gestation in a Brazilian population were established.

Keywords: Cardiac Function; Myocardial tissue Doppler; Fetal heart; reference

O – 0048 | ORAL | FETAL NEUROLOGY

MORPHOGENESIS OF THE HUMAN BRAIN ASSESSED BY IN VITRO MICRO-MRI: "NEXT GENERATION" EMBRYOLOGY

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Abstract:

Objectives: Understanding organ morphogenesis gives insights into the mechanisms of congenital anomalies development. The magnetic resonance imaging is a powerful tool for the morphological assessment of the brain in embryos and fetuses. This paper is an observational descriptive study of morphological research concerning the developing brain in the first trimester of pregnancy using a correlative anatomical and micro-MRI analysis. The aim of this is study is to depict structures within the embryonic and early fetal brain, which have not been previously documented in literature by micro-MRI.

Methods: We examined in vitro 12 human embryos ranging from 6 and 10 gestational weeks and 8 fetuses between 11 and 14 gestational weeks. Micro-MRI investigation was performed with a Bruker BioSpec 70/16USR scanner (Bruker BioSpin MRI GmbH, Ettlingen, Germany) operating at 7.04 Tesla. Protocols based on both T1 and T2 evolutions were employed. Besides the 2D axial scanning with 300 microns slice thickness and different inter-slice distances, scans for 3D reconstruction were also performed.

Results: We describe the morphological characteristics of the developing brain in the first trimester of pregnancy. We also present the acquisition parameters which were modified for each embryo in order to obtain an increased spatial resolution, which makes possible the acquisition of high quality micro-MR images. Accurate details of the embryonic brain are reported. At 9 gestational weeks the lateral and medial ganglionic eminences and the laminar structure of the ventral wall of the cerebral hemispheres were identified. The internal capsule and nucleus accumbens were documented at 10 gestational weeks. The hippocampus, subthalamic nucleus, red nucleus, inferior olivary nuclei, substantia nigra, putamen, globus pallidus and claustrum were firstly seen at 12 gestational weeks. The medial and lateral portions of the globus pallidus, the nuclei gracilis and cuneatus as well as the head of the caudate nucleus were well depicted at 14 gestational weeks.

Conclusions: Studies of embryology are still needed for a complete assessment of the developing brain. Micro-MRI offers to embryologists an alternative to the classical histological techniques. By micro-MRI we identified some nervous structures such as nucleus accumbens, subthalamic nucleus, red nucleus, internal capsule, inferior olivary nucleus which have not been previously documented by this method in the first trimester of pregnancy. Other nervous structures such as the lentiform nucleus, epiphysis, claustrum, anterior comissure, habenular comissure, as well as the laminar structure of the subpallium were depicted by micro-MRI at earlier gestational ages as previously reported in literature. Micro-MRI is feasible for the morphological studies of embryos, providing accurate images due to the high spatial resolution. It is also reproducible and doesn't affect the integrity of the specimens which can be submitted to further studies.

Key-words: micro-MRI, development, brain

O – 0049 | ORAL | FETAL NEUROLOGY

ROLE OF MAGNETIC RESONANCE IMAGING IN PRENATAL DIAGNOSIS OF CENTRAL NERVOUS SYSTEM DEFECTS

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Abstract:

Objectives. Among diagnostic capabilities to detect central nervous system (CSN) defects in prenatal life, sonography and magnetic resonance imaging (MRI) are applied in routine clinical practice. Despite years role of MRI in prenatal imaging is still controversial. The goal of this study was to assess the accuracy of prenatal MRI in the characterization of major fetal central nervous system anomalies in compare to postnatal diagnosis.

Methods. This was a prospective observational study conducted between January 2015 and June 2016. 43 subjects were referred to prenatal MRI (pMRI) investigation in the third trimester, were included. After birth all cases undergone to neonatal MRI (nMRI). Results were divided into 3 groups: (1) pMRI and nMRI concordant; (2) pMRI and nMRI discordant; (3) pMRI and nMRI discordant without prognostic importance.

Results.
(1) pMRI and nMRI were concordant in 27 on 43 cases (11 midline defects, 7 ventrikulomegaly, 6 posterior fossa defects, 3 migration disorder)
(2) pMRI and nMRI were discordant in 15 cases (4 midline defects, 10 posterior fossa defects, 1 migration disorder)
(3) In 1 case pMRI and nMRI were discordant without prognostic importance (midline defect)

Conclusion. In most cases diagnoses in pMRI and nMRI were similar. Particularly in diagnosing midline defects. It's worth to consider to replace postnatal scan by prenatal one. At the same time, we should regard that most of disagreement were in posterior fossa defects.

O – 0050 | ORAL | FETAL SURGERY

TRANSPORT OF THE SURGICAL NEONATE

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Abstract:

Introduction. Neonatal surgical care is centralised to regional centres. Increasingly, congenital anomalies are diagnosed antenatally (facilitating delivery of these newborns in these centres) but a small majority of newborns with surgical conditions require transfer. We assessed clinical and demographic profiles of the neonates referred and transferred for suspected surgical conditions.

Methods. Demographic and clinical data for neonates referred for suspected neonatal surgical conditions to the regional surgical centres was collected between 1st July 2015 and 30th April 2017. All newborns were discussed with surgical clinicians prior to referral. All transfers conducted by the UHS Southampton Oxford Neonatal Transport service were included in this study.

Results. During the study period, 590 unplanned transfers included 198 (34%) infants with suspected surgical conditions. The median gestation at transfer was 40 (26-46) weeks and 80% were referred in the first week of life. 14% required retrieval within 1 hour (time critical) and 77% within 6 hrs. At transfer, 27% were “ITU” and 31% “HDU”. 18% were invasively ventilated though the majority (79%) did not require respiratory support. 40% had a surgical diagnosis confirmed after transfer. Neonates with bilious vomiting led to the majority of transfers, but fewer confirmed surgical diagnoses. After excluding bilious vomiting, the percentage of confirmed surgical conditions in transferred neonates was 68%, the majority for suspected surgical necrotising enterocolitis (NEC) and bowel obstruction. 53% of referrals for surgical management of NEC required intervention. Despite increased antenatal diagnosis, deliveries of babies with congenital abnormalities are still occurring outside of surgical centres, requiring transportation after delivery.

Conclusions. Transfer of the surgical newborn constitutes significant unplanned activity for regional transport teams. The majority of babies were more mature, and referred early in life. Whilst accuracy for most suspected surgical conditions is high, neonates with bilious vomiting continue to pose a dilemma.

O – 0051 | ORAL | FETAL THERAPY

A SEVERE ANTI -KELL ALLOIMMUNIZATION IN MULTIPARA – A PROGRESSIVE AND UNPREDICTABLE DISEASE AFFECTING THE FETUS

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Abstract:

Over 50 different red blood cell antigens have been reported to be associated with hemolytic disease of the fetus and newborn (HDFN). Apart form anti-RhD, also anti-Rhc and anti-K1 (Kell group) are related to severe fetal disease. Maternal anti-K is the second most common alloantibody (following anti-D) and accounts for 10%-15% patients with antibody-mediated severe hemolytic anemia.

A 34-year-old multipara was being monitored with ultrasonography scans during her fifth pregnancy starting from 15 weeks of gestation with a starting anty-K titer of 1:2058. She was being monitored earlier on in gestation due to her obstetrical history of anemia and multiple intrauterine blood transfusions in previous pregnancies. The first pregnancy was uneventful. The anti-K antibodies were detected in the 3rd trimester of her second gestation. At the time she gave birth to a healthy son who did not have HDFN. During her 3rd pregnancy the titer of her antibodies increased 2 fold to 1:512 and the patient had her first intrauterine transfusion at 22 weeks of gestation with a MCA PSV of 1.96 MoM. The hemoglobin level measured before the first transfusion was 2.4 g/dl. In total from 23+1 to 35+1 weeks of gestation 7 intrauterine blood transfusions were performed to the placental cord insertion site. The amount of blood transfused was calculated according to the gestational age and in total 332 ml of packed red blood cells (PRBC) was given. A c-section was performed at 37 weeks of gestation and a son of 3200 g was born requiring 1 blood transfusion after delivery. In the subsequent fourth pregnancy, the antibody titer increased form 1:512 to 1:2048. Nuchal edema, mild ascites and tricuspid regurgitation were observed at 20 weeks of gestation. The MCA PSV was 2.13 MoM. An intrauterine blood transfusion was done. The hemoglobin level of the fetus was 2,0 g/dl. From 20+0 to 30+5 weeks of gestation 6 intrauterine blood transfusions were performed through the placental cord insertion site giving in total 183 PRBC. At 31 weeks of gestation the patient had preterm delivery and gave birth naturally to a baby girl in good condition. During the fifth pregnancy the first titer obtained was 1:2048. At 17+6 weeks of gestation, the MCA PSV measured was 3.1 MoM and there was general edema of the fetus. She was admitted to hospital for an intrauterine blood transfusion. Due to the technical difficulties related to the early pregnancy and posterior placenta 10 ml of PRBC was given to the peritoneal cavity. Intrauterine demise was reported the following day.

In anti-Kell alloimmunization the fetal anemia is mainly caused by the suppression of erythropoiesis, which is directly induced by anti-Kell antibodies expressed by the erythroid progenitor cells. The severity of anti-Kell alloimmunization is independent of the antibody titer - severe anemia has been reported with lower titers than in anti D alloimmunisation. In conclusion, the anti-Kell alloimmunization has an increasingly severe course in subsequent pregnancies. The severity of the disease can exceed the management possibilities of the intrauterine therapy.

O – 0052 | ORAL | GESTATIONAL DIABETES

NON-GENETIC RISK FACTORS FOR GESTATIONAL DIABETES: AN UMBRELLA REVIEW OF SYSTEMATIC REVIEWS AND META-ANALYSES OF OBSERVATIONAL STUDIES

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Abstract:

Objective: Summarize evidence on the non-genetic factors that have been associated with gestational diabetes mellitus (GDM), evaluate whether there are hints of biases and finally identify which of the previously studied associations include convincing evidence to support their results.

Methods: We searched PubMed and ISI Web of Science from inception to July, 2017, to identify systematic reviews and meta-analyses of observational studies examining associations between non-genetic risk factors for GDM. For each meta-analysis we estimated the summary effect size by random-effects and fixed-effects models, the 95% confidence interval, the 95% prediction interval, the between-study heterogeneity expressed by I2, evidence of small-study effects and evidence of excess significance bias.

Results: Twenty eligible meta-analyses were identified providing data on 39 associations including 448 primary studies covering a very wide range of factors: diet and lifestyle, co-morbid diseases and co-infections and a range of biomarkers. Thirty-four(87%)associations had nominally statistically significant findings

O – 0053 | ORAL | GESTATIONAL DIABETES

ADIPOSE TISSUE LYMPHOCYTES IN PREGNANT WOMEN WITH GESTATIONAL DIABETES MELLITUS

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Abstract:

Objectives: The aim of this study was to analyse different lymphocyte populations in subcutaneous (SAT) and visceral adipose tissue (VAT) in patients with GDM. Furthermore, relative gene expression of selected inflammatory factors was explored between SAT and VAT.

Methods: Anthropometric and biochemical analyses were performed in 21 pregnant women with GDM in 26-30 and 38-39 weeks of gestation. Lymphocytes were assessed as % of CD45+ cells measured by flow cytometry in SAT and VAT samples taken during cesarean section. Relative gene expression of inflammatory cytokines was determined using qRT-PCR.

Results: In our GDM subjects CD45+ cells were higher in VAT compared to SAT (19.19 ± 2.23 vs. 6.54 ± 0.67 %, p=<0.001). The ratio of CD3- and CD3+ cells did not differ between both compartments. T helper (CD4+) cells were higher in SAT compared to VAT (37.61 ± 2.36 vs. 28.63 ± 2.57 %, p=0.019), while no difference was seen in T cytotoxic (CD8+) cells. Similarly, the amount of B (CD19+) and NKT (CD16/56+CD3+) cells was higher in SAT relative to VAT (1.32 ± 0.25 vs. 0.58 ± 0.14 %, p=0.010 for B cells; 9.67 ± 1.07 vs. 5.45 ± 0.92 %, p=<0.001 for NKT cells). In contrast, NK (CD15/56+CD3-) cells were higher in VAT (17.92 ± 3.07 vs. 9.14 ± 1.30 %, p=0.015). Of all measured cytokines only the expression of IL-10 was increased in VAT (1.063 ± 0.084 vs. 0.750 ± 0.106, p=0.026), while other inflammatory factors including TNF-α, IFN-γ and IL-6 did not differ between the tissues.

Conclusion: Compared with subcutaneous adipose tissue the visceral compartment of GDM subjects showed an almost 3-fold increase in lymphocyte content suggesting a more proinflammatory milieu. These findings were further stressed by the elevated ratio of NK cells in VAT.

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O – 0054 | ORAL | GESTATIONAL DIABETES

THE EFFECT OF BREASTFEEDING ON INSULIN RESISTANCE IN THE FIRST YEAR POSTPARTUM IN JAPANESE WOMEN WITH RECENT GESTATIONAL DIABETES

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Abstract:

Objective: Gestational diabetes (GDM) is one of the most common complications during pregnancy, up to 12% or more of all pregnant women. It is well established evidence that women affected by GDM during pregnancy are high risk of the development of diabetes after delivery. Several studies showed that breastfeeding has a protective effect against the development of diabetes in general population and in women with GDM during pregnancy. However, underlying mechanism regarding the protective effect has not been clearly understood. Therefore, in this study, we investigated the effect of breastfeeding on insulin resistance during the first year postpartum in Japanese women with current gestational diabetes.

Methods: In this retrospective study, we included women who were diagnosed as having GDM after 24 weeks' gestation during pregnancy and underwent postpartum 75g oral glucose tolerance test (OGTT) during the first year postpartum at a single tertiary perinatal care center in Japan. We used IADPSG criteria and WHO criteria to make a diagnosis of GDM during pregnancy and abnormal glucose tolerance (AGT) after delivery, respectively. We defined AGT as impaired glucose intolerance and diabetes by WHO criteria. Regarding breastfeeding conditions, we defined high-intensity breastfeeding (HIB) as the condition in which infants were fed by breastfeeding alone or 80% or more of the volume, and other statuses, including partial and non-breastfeeding, as non-HIB. We investigated the effect of HIB on the prevalence of postpartum abnormal glucose tolerance and the postpartum homeostasis model of assessment of insulin resistance (HOMA-IR), after controlling for confounders, including prepregnancy obesity and weight changes during pregnancy and postpartum.

Results: We included 88 women affected by GDM during pregnancy, and among them, 46 (52%) women had AGT during the postpartum period. Among the all participants, 70 (79.5%) women fed their infants by HIB at least 6 weeks or more during postpartum period (HIB group), and the other 18 (20.5%) women were in the non-HIB group. HIB women were significantly less likely to have AGT than non-HIB women (46% vs. 78%, $p<0.02$). Women in the HIB group were also associated with a lower HOMA-IR at one year postpartum than those in the non-HIB group (1.41±1.02 vs. 2.28±1.05, $p=0.035$). Regarding the duration of breastfeeding, we found that at least six months of HIB had a significant effect of both reducing the prevalence of the AGT and improving HOMA-IR during one year postpartum, in comparison with non-HIB.

Conclusions: In Japanese women with GDM, HIB at least 6 months or more had a protective effect against the development of AGT during the first year postpartum through improving insulin resistance, independent of obesity and postpartum weight change.

O – 0055 | ORAL | GESTATIONAL DIABETES

INFLUENCE OF *ACE* (I/D), *TNF-A* (308G/A), *TLR4* (399 C/T), *PNPLA3* (10109 C/G) GENETIC VARIANTS ON INSULIN REQUIREMENT IN WOMEN WITH GESTATIONAL DIABETES

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Abstract:
Objectives: Gestational diabetes (GD) has 2-5% of pregnant women in the world. This disease manifests itself intolerance to carbohydrates. GD is heterogeneous disorder. Genetic tendency to the emergence of GD due to the influence of various genes exists. Unfavorable development of GD requires insulin appointment. Genetically mediated cytokine cascade related to endothelial dysfunction realized lead to intolerance of carbohydrates. The main role in this pathways inhere excessive activations cytokines in lipid tissue. Interaction of ACE (I/D), TNF-α (308G/A), TLR4 (399 C/T), PNPLA3 (10109 C/G) genes may determine that previously described pathogen process. The purpose of this study was to determine the genes polymorphic variants combination when insulin requirement will be developed in patients with GD.

Methods: Study included 38 women with GD. Average age was 30,68 ± 6,05 years. Patients had body mass index 28,07±6,26. All patients administrated special diet. But 10 patients with GD had unfavorable course with insulin requirement as pregnancy progress (group 1). 28 patients with GD were on a special diet throughout the whole pregnancy (group 2). All patients had been conducted to molecular genetic study of ACE (I/D), TNF-α (308G/A), TLR4 (399 C/T), PNPLA3 (10109 C/G) genes by using allele-specific PCR and RFLP PCR. Genotypes frequency analyzed between groups used xi-square test. Gene-gene interactions in evaluation of insulin requires calculated in MDR program (version 3.0.2).

Results: Genotypes frequency in 38 patients with GD amounted to: I/I – 15,79%, I/D – 42,11%, D/D – 42,11% for gene *ACE* (rs 4646994); 308 G/G – 73,68%, 308 G/A – 23,68%, 308 A/A – 2,63% for gene *TNF-α* (1800629)*;* 399C/C–92,11%, 399C/T– 7,89%, 399T/T – 0,00% for gene *TLR4* (rs 4986791); 10109C/C – 45,71%, 10109 C/G –14,29%,10109G/G – 40% for gene *PNPLA3* (rs 738409). Identified genotypes frequency had no differences compared to population. Genotypes frequency of investigated genes had not significantly difference between group 1 and group 2. Significant model of gene-gene interaction in prediction the insulin requirement in pregnant with GD was three-locus. These model included TNF-α (308G/A)/ACE (I/D)/TLR4 (399 C/T) genes interactions. The predictive value of significant model was 63% with specificity 100%.

Conclusion: Significant model of insulin requirement for patients with GD was identified as three-locus. The *TNF-α* (308G/A), *ACE* (I/D), *TLR4* (399 C/T) gene combinations predicted unfavorable GD course. Gene-gene interactions need the further analysis while new medical interventions are possible. A promising approach is individual administration of Omega-3 fatty acid doses for patients depending on combination genotypes with focus on *TLR4* (399 C/T). Omega-3 fatty acid able to inhibit genetically mediated cytokine cascade. Individual administration of Omega-3 fatty acid according of genotype analysis with special diet may decrease the risk of GD development.

Key words: gestational diabetes, genes, influence

O – 0056 | ORAL | GESTATIONAL DIABETES

GESTATIONAL DIABETES MELITUS IN CLINICAL HOSPITAL CENTER SPLIT, CROATIA

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Abstract:

Aim: To investigate the incidence and outcome of pregnancies complicated with gestational diabetes mellitus (GDM) in the Clinical Hospital Center Split, Croatia.

Methods: Study group included all pregnant women with GDM having delivered during 2013, including those followed up during 2013 and delivered in 2014. Data were collected by census method from official protocols. Control group included deliveries from GDM-free pregnancies entered in the protocols immediately following particular GDM woman.

Results: In the investigated period there were 5451 deliveries. GDM was diagnosed in 96 (1.76%) women, 81 (84.5%) of them were controlled at Department and 15 (15.5%) were treated as outpatients at primary gynecologic care units. Development of GDM was statistically more frequently recorded in multiparous women (61.4% vs. 45.8%; p=0.03), mean age 31,5±6,6 years. There were no between-group differences according to birth weight (3576+/-566g vs. 3464+/-633g; p=0.19), birth length (50.5+/-1.9cm vs. 49.9+/-2.8cm; p=0.15), ponderal index (2.76+/-0.25g/cm3 vs. 2.73+/-0.26g/cm3; p=0.76), and large for gestational age (17.7% vs. 9.4%; p=0.13) or macrsomia rate (20.8% vs. 13.5%; p=0.25). GDM women delivered more often from 37th to 39th week of gestation (72.9% vs. 53.1%; p=0.00). The prevalence of cesarean section was higher in investigated group (37.5% vs. 25%; p=0.04). Prostaglandin E2 use in labor induction or stimulation was five times greater in GDM group (10.4% vs. 2.16%; p=0.01). Meconium staining of the amniotic fluid was three-fold more common in control group (16.6% vs. 5.2%; p=0.01)

Conclusion: The results of this study highlight the importance of simple screening testing such as oral glucose tolerance test to be performed in all pregnant women in order to recognize as many cases of GDM, pointing to its utmost public health relevance.

O – 0057 | ORAL | HEMODYNAMIC MONITORING OF THE SICK NEONATE

THE PROGNOSTIC IMPORTANCE OF DETERMINING THE EJECTION FRACTION AND THE FRACTION OF THE LEFT VENTRICULAR AND PROHORMONE NATRIURETIC PEPTIDE SHORTENING IN NEONATES WITH PRENATAL ASPHYXIA

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Abstract:

Introduction. Echocardiographic assessment of cardiac function in neonates with asphyxia is difficult due to tachycardia and the increased index of left ventricular eccentricity caused by persistent pulmonary hypertension.

The goal of the work. Determine the importance of echocardiographic monitoring and determination of prohormone natriuretic peptide on survival and length of hospitalization of newborns with perinatal asphyxia.

Method. The study included 120 fetal infants; 52 with perinatal asphyxia: (i) APGAR 5 <6/10 (i) lactates> 2.5 mmol /l and base excess (BE)> 10 mEq /l in the first 6 hours and disorder of the function of one or more organic systems (group I) and 68 asymptomatic neonates (group II). Echocardiography was performed in the first and third days of life, as well as the determination of NT-proBNP, troponin I, lactate and base excess.

Results.
a. significant correlation of serum BNP values in the first measurement comparing to the second, in both the control group as well as in the group with perinatal asphyxia
b. lower LVEDD in the first day and decreased LVFS in the third day
c. higher number of days on mechanical ventilation and inotropic stimulation
d. increased NT-ProBNP and eccentricity index in the first and third day and its positive trend (for a unified group)
The length of hospitalization (in a unified group) depended significantly from:
a. Lactate in the first day and NT-proBNP in the third day
b. LVEDD and LV EF in the first day

Conclusion. Echocardiography, EF, FS, determination of NT-proBNP, can indicate with significant likelihood degree of cardiac dysfunction, prognosis of the disease and length of hospitalization.

O – 0058 | ORAL | HYPERTENSION IN PREGNANCY

PSYCHOSOMATIC STATUS OF PREGNANT WOMEN WITH ARTERIAL HYPERTENSION AND OBESITY

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Abstract:

Obesity is one of the most common chronic diseases not only adults but also children and adolescents. So, according to experts who, in 2014, more than 1.9 billion adults (about 40% of the population) aged 18 years and older are overweight (BMI>25 kg/m2). Hypertensive disorders during pregnancy occur with a frequency of 15-18% of the population and include: chronic hypertension (existing before pregnancy), preeclampsia, preeclampsia with chronic hypertension and gestational hypertension (without proteinuria). Its contribution in the pathological course of pregnancy contributes to the psychological health of women.

The aim of our study was to examine the psychosomatic status of pregnant women with arterial hypertension and obesity. The survey of 174 patients was investigated in the Moscow clinical hospital named Yudina. The survey included: anamnesis data, estimation of level of physical activity, the scale of personal and situational anxiety Spielberg-Hanina (STAI). At the moment of conception, 75% of women had normal body weight (BMI < 25 kg/m2), 15,9% were overweight (25 kg/m2<BMI<30kg/m2), 6,82% of women were obese 1st degree (BMI>30kg/m2), and 2.3 % were obese and 2 of 3 severity ((BMI>35kg/m2).

A sedentary lifestyle at the time of pregnancy were 28.4% of respondents, low physical activity (low physical activity, occasional sports from 1-3 times per week) was observed in 38.6% of new moms. The level of physical activity as moderate (regular exercise to 3-5 times per week) and high (exercise every day) is regarded 26.1% and 5.7% of respondents respectively.

Frequency high trait anxiety was 46% (in the population up to 40%), situational - 37%. The prevalence of hypertensive disorder in the General group was 19.3 % - which corresponds to the population data. While pregnant women with normal body weight and hypertensive disorders were found only in 15% of cases. In the group with overweight, this frequency was 30.9% in the group with obesity is 37.5%.

The prevalence of high trait anxiety were heterogeneous in the groups with different BMI in the group with overweight, the high frequency of LT was 57.1% in the group with obesity and normal body weight to 33%. High personal anxiety was also prevalent in groups with low physical activity (41,2%) and sedentary lifestyle (44%), while in the groups with moderate and high physical activity level was 21.7% and 25% respectively.

The lifestyle of the women on the pregravidal stage has a significant impact on the further course of pregnancy: the risk groups are pregnant women with low levels of physical activity and sedentary lifestyle, overweight. In this group there is increased lability of the emotional state and anxiety. Correction of physical activity of pregnant women (in the absence of other contraindications) and the use of psychotherapeutic techniques in the outpatient phase will allow in the future to reduce the rate of complications during pregnancy.

O – 0059 | ORAL | HYPERTENSION IN PREGNANCY

ADENOMYOSIS AND ADVERSE PERINATAL OUTCOMES: INCREASED RISK OF SECOND TRIMESTER MISCARRIAGE, PREECLAMPSIA, AND PLACENTAL MALPOSITION

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Abstract:

Objective: To evaluate the potential impact of adenomyosis on the pregnancy outcomes by retrospectively investigating adenomyosis-complicated pregnancy cases.

Methods: We performed a retrospective case–control study. Forty-nine singleton pregnancy cases complicated with adenomyosis were included in this study. The controls (n = 245) were singleton pregnant women without adenomyosis and were frequency matched to adenomyosis cases by age, parity, and the need for assisted reproductive technology for this conception. The incidence of obstetrical complications and delivery and neonatal outcomes were examined.

Results: Patients in the adenomyosis group were significantly more likely to have a second trimester miscarriage (12.2% vs 1.2%, odds ratio (OR): 11.2, 95% confidence interval (95% CI): 2.2–71.2), preeclampsia (18.3% vs 1.2%, OR: 21.0, 95% CI: 4.8-124.5) , placental malposition (14.2% vs 3.2%, OR: 4.9, 95% CI: 1.4–16.3), and preterm delivery (24.4% vs 9.3%, OR: 3.1, 95% CI: 1.2–7.2), compared with the control group.

Conclusion: Adenomyosis was associated not only with an increased incidence of preterm delivery, as previously reported, but also with an increased risk of second trimester miscarriage, preeclampsia , and placental malposition, which could lead to poor perinatal outcomes.

O – 0060 | ORAL | HYPERTENSION IN PREGNANCY

THE CHANGES OF MATERNAL CARDIAC FUNCTION DUE TO PREECLAMPSIA

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Abstract:

Objective. Preeclampsia is a risk factor of peripartum cardiomyopathy and increases the risks of maternal future cardiovascular diseases. Even normal pregnancy involves significant changes in hemodynamics. More remarkable effects should be accompanied with preeclampsia. However, to date, few studies about the influence in severity of preeclampsia to maternal cardiac function and structural changes compared with normal pregnant women have been conducted. We examined maternal cardiac function in patients with preeclampsia during peripartum period and compared with normal pregnant women.

Methods. Between 2010 and 2016, a total of 138 singleton patients with preeclampsia and 36 singleton pregnant women without preeclampsia were enrolled in this study. We defined mild preeclampsia as systolic blood pressure from 140 to 160 mmHg or diastolic blood pressure from 90 to 110 mmHg, with proteinuria. And severe preeclampsia was defined as systolic blood pressure over 160 mmHg or diastolic blood pressure over 110 mmHg. Echocardiography was performed three times during peripartum period; late stage of pregnancy, early postpartum and one month postpartum. We measured intraventricular septal thickness (IVST), left ventricular end-diastolic diameter (LVDd), left ventricular end-systolic diameter (LVDs), left ventricular posterior wall thickness (LVPWT), left ventricular ejection fraction (LVEF), left atrium diameter (LAD) and early transmitral velocity/early diastolic velocity of the mitral annulus (E/e'). Statistical analysis of covariance with age was performed with the SPSS software package.

Results. There were 87 patients with severe preeclampsia, 51 patients with mild preeclampsia and 36 normal pregnant women. In these groups, there were no differences in pre-pregnancy BMI. LVEF was not significantly different among three groups through this period. LV diastolic parameter, which was measured by E/e', became worse in preeclampsia groups at late pregnancy, and E/e' was still worse in patients with severe preeclampsia than in other groups in early postpartum. At one month postpartum, there were no significant differences among three groups. At late pregnancy, IVST, LVDd, LVDs, LVPWT and LAD were worse in severe group compared with other groups. In early and one month postpartum, there were no differences between mild preeclampsia patients and normal pregnant women. However, these structural and functional changes including LVDs, LVDd and LAD were still significantly worse compared with normal pregnant women and mild preeclampsia patients even at one month postpartum.

Conclusion. Maternal cardiac function of mild preeclampsia became normal in early postpartum. On the other hand, severe preeclampsia patients experienced cardiac changes that did not recover completely even one month postpartum. These changes are assumed to correlate with future onset of cardio vascular diseases. Obstetricians should keep in mind the continuous cardiovascular effects after delivery, especially in severe preeclampsia patients.

O – 0061 | ORAL | HYPERTENSION IN PREGNANCY

PREGNANCY MORBIDITIES IN AUTOIMMUNE CONNECTIVE TISSUE DISEASE

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Abstract:

Objectives: Autoimmune disorders are more common encountered in women than in men affecting frequently women during their reproductive age. Last decade brought new evidence regarding pregnancy morbidities in women suffering from autoimmune connective tissue disease. Even though Systemic Lupus Erythematous (SLE_) is the most frequent autoimmune disease it is important to bring other autoimmune connective disease.

Methods: After researching the PubMed, Uptodate, Wiley Library databases and specialty journals and analyzing the relevant clinical studies and reviews we chose to take into consideration the results of the clinical studies from the last decade. We also conducted a retrospective study that stretched over a period of 10 years researching the course of pregnancies in women with autoimmune connective tissue disease that were treated in Saint Pantelimon Emergency Hospital, Bucharest.

Results: Active SLE and the presence of antiphospholipid antibodies (APA) are considered the most powerful predictors of perinatal morbidity. We found that a significant number of pregnancies occur during periods of active nephritis (19%) and have positive APAs (26.2%). Up to 75% of patients with SLE have clinically evident renal disease. Lupus flare in pregnancy is one of the major issues associated with SLE; however, studies report variable flare rates in pregnancy between 25-65 %. Other important perinatal complications associated with SLE in pregnancy are: gestational hypertension (16.3%), fetal growth restriction (12,7%), preeclampsia (7,6%), preterm delivery (39,4%), stillbirth (3,6%), neonatal death (2,5%). Other autoimmune connective tissue disorders, even though significantly more rare, are challenging not only for the patient but also for the medical team supervising the pregnancy.

Conclusions: Previous and actual lupus nephritis is associated with negative effects on pregnancy and with a deterioration of renal function. Despite considerable improvement in success rates, suboptimal obstetrical outcomes still remain a cause for concern. Best pregnancy results can be obtained if appropriately managed by a multidisciplinary team of physicians

Key words: systemic lupus erythematous, preeclampsia, fetal growth restriction

O – 0062 | ORAL | HYPOXIC ISCHEMIC ENCEPHALOPATHY

PROGNOSTIC VALUE OF BRAIN RESISTIVE INDICES IN PERINATAL ASPHYXIA BEFORE AND AFTER TREATMENT WITH THERAPEUTIC HYPOTHERMIA

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Abstract:

Prognostic value of brain resistive indices in perinatal asphyxia before and after treatment with therapeutic hypothermia

Objective. We compared pre- and post-cooling resistive indices (RI) values and examined the relationships between RI values and neurodevelopmental outcome at one year of age. Material and methodes. We performed color Doppler brain sonography, including RI, on 20 term neonates prior to therapeutic hypothermia. Following therapeutic hypothermia we repeated Doppler brain sonography in 17 neonates who surrvived through the process. All RI values were sampled in the anterior cerebral artery. Neurodevelopmental assessment was conducted at one year of age with Amiel-Tison Neurological Assessment Scale (ATNA).

Results. X2 analyses examining the differences between pre-cooling RI value ranges and outcomes were significant (p = 0,013) (Figure 1.) The differences between post-cooling RI value ranges and outcomes were not significant (p = 0,057) (Figure 2.). Outcomes of severe disability and death occurred more frequently among neonates with pre-cooling RI values at or below the 0.60 to 0.69 range, and the mean pre-cooling RI values for the neonates who died during hypothermia therapy (N = 3) was 0,58.

Conclusion. This study confirms the role of RI measurements as a safe and cost-efficient method for prognosis of outcome following perinatal asphyxia in conjuction with other clinical information. Pre-cooling RI values may predict poor outcome including severe disability and death very early in the course of the disease.

Key words: perinatal asphyxia, resistive index, prognostic value, outcome

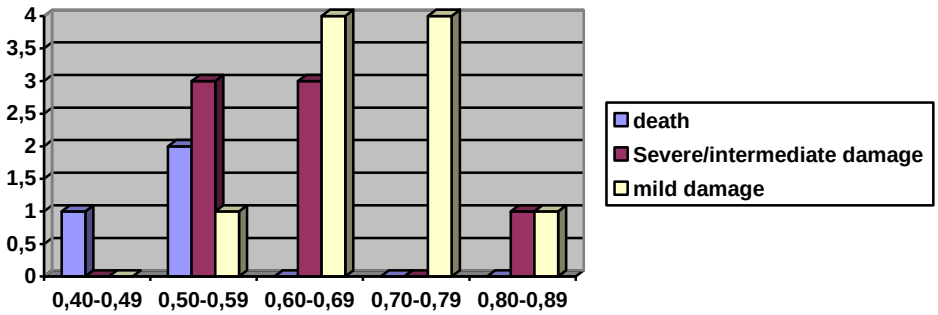

Figure 1. The number of neonates (Y-axis) with RI values within the specified value ranges (X-axis) pre-cooling therapy

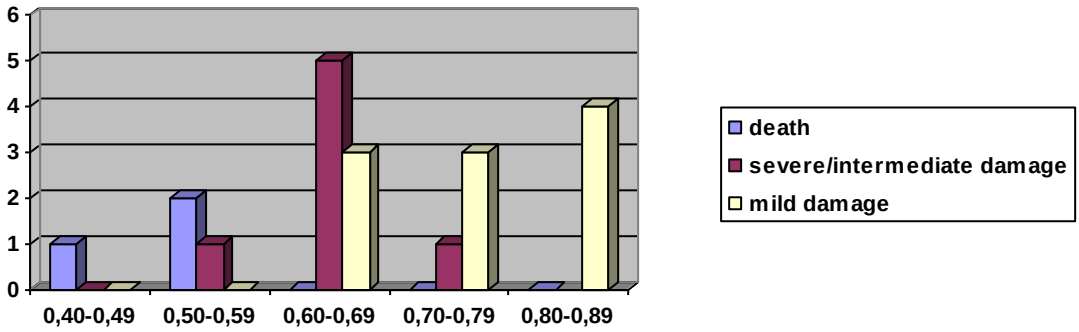

Figure 2. The number of neonates (Y-axis) with RI values within the specified value ranges (X-axis) post-cooling therapy

O – 0063 | ORAL | HYPOXIC ISCHEMIC ENCEPHALOPATHY

THERAPEUTIC HYPOTHERMIA IN INFANTS WITH HYPOXIC ISCHEMIC ENCEPHALOPATHY

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Abstract:

Objectives: Hypothermia is currently standard in management of term and near term (≥36 gestational weeks) newborns with moderate and severe neonatal hypoxic ischemic encephalopathy (HIE). Results of large randomized studies and several published meta-analysis showed that therapeutic hypothermia in newborns with moderate and severe HIE significantly decreases combined outcome – death and severe neurodevelopmental disorders in 18 to 22 months of age, hence improving neurocognitive outcome in middle childhood. Since 2014, therapeutic hypothermia in management of newborns with hypoxic ischemic encephalopathy according to TOBY protocol and guidelines is implemented in Institute for Neonatology, Belgrade.

Methods: Data about newborns treated with therapeutic hypothermia from March 2014 to May 2017 was collected from medical documentation. Data refers to perinatal-neonatal characteristics, stage of encephalopathy, clinical complications and outcome before discharge.

Results: During the three year period, thirty newborns gestational age 38.87±1.45 weeks and birth weight 3179.33±703.27g fulfilled the criteria for hypothermia treatment. Therapy started 5.20±2.74 hours after birth. All newborns had signs of perinatal asphyxia: Apgar scores median 1 (0-6) and 3 (0-6) at 1 and 5 minutes, pH 6.94±0.18, BE -13.90±8.87, lactates 14.07±4.89. Daily encephalopathy score was: median 12 (3-18), 13 (3-18), 12 (4-18), 12 (6-18), on days 1-4 after birth, respectively. At admission aEEG findings were: normal background and seizure activity n=3, moderately abnormal activity n=12, 5 of them also had recorded seizure activity, burst suppression n=9, flat line n=6. At the end of the therapy: normal background n=12, moderately abnormal activity n=6, burst suppression n=2, flat line n=4. In 26 infants (86.67%) intubation and mechanical ventilation was needed. Median duration of mechanical ventilation was 5 days (3-46). Analyzing the side effects of hypothermia during treatment: sinus bradycardia was recorded in 2 (6.67%), hypotension in 5 (16.7%) infants, inotropic therapy was needed in 22 (73.3%), and acute renal failure was recorded in 4 (13.3%) infants. Convulsiones were diagnosed in 18 infants (83.3%), and were treated with phenobarbiton. Hemorrhagic syndrome was recorded in 6 (20%) infants. Thrombocytopenia was recorded in 4 (13.3%), 9 (30%), 13 (43.33%) infants at day 1, 2 and 3 respectively. Twenty four infants (80%) survived, 6 infants (20%) with severe HIE died.

Conclusions: Analyzing our data, therapeutic hypothermia is a safe method of treatment with significant positive effect on outcome of newborns with moderate and severe HIE.

Key words: perinatal asphyxia, hypoxic ischemic encephalopathy, therapeutic hypothermia

O – 0064 | ORAL | INFECTIVE DISEASE

THE PREDICTIVE VALUES OF INTRAPARTUM MATERNAL RISK FACTORS FOR THE DEVELOPMENT OF EARLY NEONATAL INFECTION

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Abstract:

The aim of this study was to examine the intrapartum maternal risk factors as predictors of the occurrence of early neonatal infection.

Patients and Methods: This retrospective study included 957 mothers with one or more risk factors for early neonatal infection (urinary infection, excessive vaginal discharge, febrile state, premature rupture of fetal membranes, chorioamnionitis) and their newborns with gestational age of 37-42 weeks, both sexes, from singleton pregnancies and without visible anomalies.

Results: Out of all newborns 74% were healthy newborns, 24% with probable and 2% with proven neonatal infection. There was 87.15% of newborns with one intrapartum risk factor, 12.02% with two risk factors and only two of newborns (0.6%) whose mothers had three risk factors for development of early neonatal infection. Excessive vaginal discharge was the most common risk factor in all three groups of newborns. In the group of newborns with probable infection the most common risk factors are premature rupture of fetal membranes (41.33%) and urinary infection (30.22%), while in newborns with proven infection most common risk factors are chorioamnionitis (31.58%) and febrile states (21.05%). The strongest predictor for the occurrence of proven neonatal infection was chorioamnionitis with probability quotient 307.76.

Conclusion: Chorioamnionitis has a significant validity in early diagnosis and timely treatment of early neonatal infection.

O – 0065 | ORAL | INFECTIONS IN PREGNANCY

TISSUE FACTOR-BEARING MICROPARTICLES ACTIVITY IN CORD BLOOD IS NOT INFLUENCED BY INTRAUTERINE INFECTION

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Abstract:

Objectives. A body of clinical and experimental data suggests that blood tissue factor-bearing microparticles (MPs-TF) are the main reservoir of circulating tissue factor (TF). Hence, the present study aims to investigate the association of MPs-TF and total TF with intrauterine infection.

Methods. We conducted a pilot study that includes 48 newborns (23 preterm and 25 term). We excluded infants with major congenital abnormalities. The median (Me) gestational age at birth was 38 weeks (range, 25–42 weeks) and the median birth weight was 2840 g (range, 850-4790 g). Umbilical venous cord blood was collected at birth. MPs-TF activity and total TF levels were measured in plasma obtained from cord blood using specific enzyme-linked immunosorbent assay kits (Hyphen BioMed, France). Furthermore, the ratio of TF to MPs-TF was calculated. The results are expressed as Me and interquartile range (IQR). The study population was divided into subgroups based on the clinical and laboratory diagnosis of intrauterine infection. A non-parametric Mann-Whitney U test was used to compare groups. Correlations were analysed using Spearman's correlation coefficient.

Results. From all of the patients 12 newborns were diagnosed with intrauterine infection. The activity of MPs-TF was almost two times higher in the group with intrauterine infection, however, without statistical difference (Table 1). There were no statistically significant differences between newborns with intrauterine infection and without intrauterine infection in total TF levels and TF/MPs-TF ratio (Table 1). When two groups were analysed together no significant correlations were detected between the evaluated plasma parameters ($p > 0.05$). Plasma MPs-TF activity showed a moderate negative correlation with total TF levels only in newborns with intrauterine infection (Spearman's $R= -0.6$, $p=0.03$).

Conclusions. Although MPs-TF are components of cord blood, their activity is not influenced by intrauterine infection. Future study is needed to confirm our findings.

O – 0066 | ORAL | INFECTIVE DISEASE

CLINICAL COURSE AND PERINATAL TRANSMISSION OF CHRONIC HEPATITIS B DURING PREGNANCY: A REAL-WORLD STUDY

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Abstract:

Background: Perinatal transmission of hepatitis B virus (HBV) occurs in approximately 10-15% of children from mothers with high viral load despite active-passive immunoprophylaxis. Data is limited for the optimal target population and starting point for antiviral therapy in this setting.

Methods: A total of 221 singleton pregnant women with detectable HBV-DNA levels (≥ 10^3 copies/mL) were enrolled during January 2011 to June 2015. Forty-three high viraemic patients (≥ 10^6 copies/mL) received telbivudine in the 2nd or 3rd trimester according to their intention, while 89 high viraemic and 79 low viraemic (≥10^3 and <10^6 copies/mL) patients were the control cohorts. Primary endpoint was the pregnancy outcomes and secondary endpoint the perinatal transmission including intrauterine infection, immunoprophylaxis failure and occult infection.

Results: In all, 209 patients completed pregnancy with 209 infants, while 2 in telbivudine-treated cohort had unexplained late stillbirths. Twenty-nine (70.7%) of telbivudine-treated patients and 3 (3.4%) of untreated high viraemic controls achieved undetectable HBV-DNA levels prior delivery. At 7 months postpartum, immunoprophylaxis failure was significantly lower (2.4%) in telbivudine-treated cohort, compared with 16.9% and 10.1% in untreated high and low viraemic cohorts respectively.

Conclusions: Low viraemic patients may also need antiviral therapy since they bear moderate risk for perinatal transmission of HBV. However, more multicenter, large-scale studies are required before antepartum antiviral therapy is routinely recommended in patients with detectable viral loads.

O – 0067 | ORAL | PUBLIC HEALTH

MATERNAL FOLIC ACID, METAFOLINE AND DOCOSAHEXAENOIC ACID SUPPLEMENTATION, PREGNANCY OUTCOMES AND CONGENITAL HEART DEFECTS IN OFFSPRING

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Abstract:

Background. Folic acid is essential for normal embryogenesis and the physiological course of pregnancy. The World Health Organization (2015) and FIGO (2015) contends that the folic acid supplementary is very important for maternal and child health. Omega-3 fatty acids also play a role in determining the length of gestation and in preventing perinatal complications. Multiple factors such as diet, genetic predisposition, woman's socioeconomic and physiological status influence folate and Omega-3 fatty acids status. Folate deficiency is not always successfully compensated by synthetic folic acid only since the latter in the body must be converted into active folate forms (tetrahydrofolates).

Objective. To assess the consumption of folate and the effectiveness of folic acid, metafoline and docosahexaenoic acid (DHA) supplements in pregnancy in young reproductive age healthy non-smoking women. Design. A retrospective case-control study.

Materials and methods. This study included two groups of Russian women aged 20-35 years with non-chromosomal singleton births without a history of spontaneous miscarriages, prematurity, stillbirth, congenital defects and other pregnancy complications. Case-group consists of 75 mothers initiated folic acid (200 mkg) and L-methylfolate (208 mkg) support in preconception period and continued it up to 13-th week of pregnancy then DHA (200 mg) was added. 75 women of control group did not use any nutrition supplements. Median age of women was 28.8±3.7 (case-group) and 27.4±4.6 (controls) years ($p>0.05$). The questionnaire survey about the adequacy of nutrition was conducted. We calculated $\chi 2$, odds ratios (OR) and 95% confidence intervals (CI).

Results. We found that women of both groups consuming poor folate foods 89.4% vs 88.0% (case and control groups respectively, $p\chi 2>0.05$). As shown in Table, significant differences in pregnancy and perinatal outcomes were found in patients of the compared groups. Conclusion. Folic acid, metafoline and docosahexaenoic acid supplementation has been associated with a decrease of pregnancy complications and congenital heart defects in young reproductive age healthy non-smoking mothers.

Keywords: Folic acid, metafoline, docosahexaenoic acid, pregnancy, congenital heart disease.

O – 0068 | ORAL | MICROBIOTA IN PERINATAL MEDICINE

DOES POSTNATAL USE OF LACTOBACILLUS REUTERI INFLUENCE OUTCOME OF PRETERM INFANTS LESS THEN 32 WEEKS OF GESTATION?

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Abstract:

Objectives. The aim of this study was to report the neonatal outcomes of preterm infants less than 32 weeks of gestational age (GA) receiving routine administration of the probiotic bacteria Lactobacillus reuteri (L.reuteri) DSM 17938 since the 1st week of life, by comparing them with a retrospective, historical cohort.

Methods. This retrospective chart rewiev study was conducted at University Hospital Sveti Duh Zagreb, Croatia, comparing neonatal outcomes of preterm infants with less than 32 weeks of GA born during two consecutive periods: from January 2007 to May 2010 (historical cohort [HC], infants born before introduction of L. reuteri) and from June 2010 to December 2013 (L.reuteri cohort [LrC], infants who received L.reuteri). The study included infants from singleton and multiple pregnancies irrespective of birth weight and mode of delivery. Excluded were infants with congenital anomalies or chromosomal diseases and these who were transferred to another hospital or died within the first week of life. Since June 2010, administration of L. reuteri was started in the 1st week of life (typically between 72 and 96 hours) at a dose of 108 colony-forming units in 5 drops of a commercially available oil suspension once per day for 6 weeks or until discharge. The primary outcome was the incidence of proven late-onset sepsis (LOS) (blood culture positive bacterial or fungal infection). The secondary outcomes were mortality rate before discharge (death after 7 days of life), duration of antibiotic treatment and the incidence of NEC stage ≥2. Neonatal outcomes were compared using Chi square analysis with Fisher exact test or Mann-Whitney test.

Results. A total of 146 preterm infants were included in the study with 70 and 76 infants in HC and LrC, respectively. The average GA was 29.5 (SD ±2.2) weeks and the average birth weight 1319 (SD ±383) g. No difference were found for GA, birth weight, mode of delivery and infant gender between the two cohorts. There were no difference in the incidence of proven LOS, duration of antibiotic treatment, and the incidence of NEC (stage ≥2) between the two cohorts. Five preterm infants in HC had proven Candida sepsis in contrast to none of the infants in LrC. Mortality rate before discharge was higher in the HC than in the LrC (15.7% vs. 3.9%, p = 0.023). The analysis of the subgroup of preterm infants with birth weight less than 1500 g showed a significant difference in the incidence of proven LOS (37% vs. 17%, p = 0.037) and mortality (21.7% vs. 6.4%, p = 0.040) between HC and LrC.

Conclusions. The use of probiotic L. reuteri has a significant effect on reducing the incidence of proven LOS and mortality in preterm infants less than 32 weeks of GA and birth weight less than 1500 g.

Keywords: Probiotic, Lactobacillus reuteri, Infant, Premature

O – 0069 | ORAL | MOLECULAR GENETICS IN PERINATAL MEDICINE

ASSESSMENT OF THE INDIVIDUAL FOLIC ACID DOSES REQUIREMENT FOR PATIENTS WITH REPRODUCTIVE DISORDERS

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Abstract:

Objectives: Folic acid consumption beginning in the preconception period is an important component of the favorable course of pregnancy and the birth of a healthy neonate. Folate deficiency of food and vitamins intake, smoking and folate related genes polymorphism cause an increased risk of hyperhomocysteinemia developing. Hyperhomocysteinemia associate with the reproductive losses risk. But recent studies focused that excessive folate serum level also has an adverse effect on pregnancy and neonatal outcome. The aim of the study was to assess the folate metabolism in women with reproductive disorders depending on folate related genes polymorphism, environmental factors and folic acid administration.

Materials: 170 women with reproductive disorders (primary infertility/early pregnancy loss) were examined. We investigated folate related genes polymorphism: MTHFR (C677T, A1298C), MTRR (A66G), MTR1 (A2756G), RFC (G80A) and folate metabolism markers (plasma homocystein level, plasma folate level). Patients past histories, daily folic acid administration (400-800 μg, 1 mg, 2-5 mg as monovitamin or multivitamin complexes and without administration) during the beginning of the study were detailed. gene-gene and gene-factor interactions were analyzed using multifactor dimensionality reduction program (MDR_version 3.0.2).

Results: 35 (20,58%) patients had mild hyperhomocysteinemia (more 12 μmol /l). 7 (20%) of these patients did not take folic acid and 28 (80%) did take an average of 1 mg or 2-5 mg folic acid daily as monovitamin. Compared different interactions between subgroups with elevated and normal homocysteine level we found three locus significant model MTHFR(C677T) / MTRR (A66G) / smoking (predictive value 67%). Possible folate deficiency (less 6 ng/ml) and folate excess (more 6 ng/ml) was found among women (16 (9,41%) and 25 (14,70%), respectively). 8 (50%) possible folate deficiency women did not take folic acid and 8 (50%) did take an average 1 mg or 2-5 mg folic acid daily as monovitamin. Significant model of folate deficiency risk was also three locus but included MTHFR(C677T)/body mass index/hormonal therapy (predictive value 72%). All women with elevated folate level did take 1 mg or 2-5 mg folic acid daily as monovitamin. Significant risk model (predictive value 69,75%) was MTR1(A2756G)/RFC(G80A)/ MTHFR(C677T). Two women with folate deficiency had mild hyperhomocysteinemia, but three women with folate excess had also hyperhomocysteinemia. They were offered liquid chromatography to detect amino acid defects. Incidentally MTHFR (C677T, A1298C), MTRR (A66G), MTR1 (A2756G), RFC (G80A) genotype frequencies in all comparison subgroups did not differ.

Conclusion: further interactions studies are needed to select individual administration of folic acid in order to prevent hypervitaminosis and hypovitaminosis for optimal maintenance of folate metabolism and to overcome reproductive disorders.

Key words: gene investigation, folic acid, reproductive disorders

O – 0070 | ORAL | NEONATAL NUTRITION

NECROTIZING ENTEROCOLITIS: WHAT ASPECTS IN 2017?

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Abstract:

Background: Necrotizing enterocolitis (NEC) is the most common gastrointestinal emergency in neonatal intensive care units, making it one of the leading causes of neonatal mortality despite the progress of neonatal resuscitation. It is more prevalent in lower gestational age and lower birth weight groups.

Objective: To describe the epidemiological, clinical, radiographic, therapeutic features and outcome of patients presenting NEC during hospitalization in a Tunisian Neonatal Resuscitation and Intensive Care Unit.

Material & Methods: A retrospective descriptive study of patients presented NEC in our Neonatal Resuscitation and Intensive care unit over a two years period (March 2015 - March 2017).

Results: We collected 17 patients, 8 male and 9 female. 14 patients were born prematurely. The median weight at birth was 1500 g with extremes between 1100 g and 1980 g. 9 patients were small for gestational age. The mean Apgar at 5 minutes was 6 ± 3. 6 patients had perinatal asphyxia. 15 patients had received an empiric antibiotic therapy at birth. 16 had an umbilical venous catheter. 3 patients had a maternofoetal infection and 7 patients had a healthcare associated infection. 11 patients required mechanical ventilation at birth with a median duration of 5 days and extremes between 2 and 12 days. 10 patients presented metabolic acidosis. Enteral feeding was started after 72 hours of life: 9 patients were breastfeeding and 7 patients had received an infant formula. Clinically, abdominal distension was noted in 13 cases, feeding residuals in 13 cases, apnea in 10 cases, abdominal tenderness in 8 cases and bradycardia in 4 cases. Symptoms were considered severe in 5 cases with schock. Rectal bleeding was noted in 3 cases. Abdominal X-ray was normal in 10 cases. It showed bowel dilatation in 6 cases, thickening of bowel wall in 3 cases, pneumatosis intestinalis in 2 and free intraperitoneal gas indicative of intestinal perforation in one case. According to the Bell's criteria, 10 cases were classified as stage I, 6 as stage II and 1 as stage III. 15 patients underwent broad spectrum antibiotherapy, 12 in absolute diet. Mechanical ventilation was used in 11 cases. Only one patient with intestinal perforation underwent surgery. Evolution was favourable in 13 cases, 4 patients died.

Conclusion. NEC represents only 8 to 12% of neonatal infections, but it remains a serious life-threatening condition for newborns. We illustrate the risk factors of this disease and the different clinical features. Despite advancements in the knowledge and understanding of the pathophysiology of NEC, there is currently no universal prevention measure for this serious and often fatal disease.

Key words: Neonate, necrotizing enterocolitis.

O – 0071 | ORAL | NEONATAL SEPSIS

THE IMPORTANCE OF C-REACTIVE PROTEIN BLOOD LEVEL SERIAL MEASUREMENTS IN DIFFERENTIATING INFECTED FROM UNINFECTED TERM NEONATES WITH PROLONGED PREMATURE RUPTURE OF MEMBRANES

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Abstract:
Background: Premature rupture of membranes (PROM), longer than 18 hours, is highly related to early onset neonatal sepsis (EONS). Physician is often in dilemma which neonates with PROM to treat with antibiotics and how long. Nonbacteriological laboratory diagnostics became important auxiliary tool in differentiating infected from uninfected neonates. Most used fast laboratory test in neonatal intensive care unites is C-reactive protein (CRP).

Objectives: To analise the influence of prolonged PROM and EONS to CRP blood concentration in term neonates and to assess the importance of serial CRP level measurements in differentiating infected from uninfected neonates at risk of EONS according to PROM.

Material and methods: Prospective comparative study at secondary care hospital in Serbia included 163 term single neonates, classified in three main groups: 1."without PROM" (N=80), 2. "PROM ≥ 18h" (N=68) and 3. "PROM ≥ 18h, with EONS" (N=15) and, according to PROM duration, in five categories: 1. without PROM, 2. PROM 18-24h, 3. PROM 25-48h, 4. PROM 49-72h and 5. PROM>72h. We analised: CRP concentration in three blood samples, taken at 0, 12 and 24h after birth, white blood cell and platelet count and bacteriological cultures (gastric aspirate, nasal and pharyngeal swab and blood cultures in neonates with high EONS risk). Statistical analysis was performed using SPSS 20.0 softweare package.

Results: Physiological rice of CRP level during the first day of life was noticed in all three groups. The influence of EONS to CRP level, tested between infected and healthy (with and without PROM) neonates showed significant difference ($p<0,001$) in whole three samples. Group of healthy neonates with PROM ≥ 18h had significantly ($p<0,001$) higher CRP level in second and third sample than group without PROM, but significantly lower ($p<0,001$) CRP level than group with PROM ≥ 18h and EONS in all three samples. Significant positive correlation was found between CRP level and five PROM categories mostly expressed in second, than in third ($p<0,001$), and less in first sample ($p=0,04$). The appearance of EONS was not proportional to PROM duration because the other risk factors, except PROM, were present (mostly uncontrolled pregnancy). At the end, the two laboratory diagnostic models for EONS were suggested for fast differentiating infected from uninfected term neonates. They included white blood cell and platelet count, peripheral bacteriological cultures and CRP blood level (at 0 and 12h after birth in the first model and at 0 and 24h after birth in the second one). The only significant ($p<0,001$) predictor of EONS in both models was the CRP blood level change during the time.

Conclusions: 1. PROM itself, as inflammatory process, significantly increases CRP level at healthy term neonates after first 12 hours of life. 2. EONS has significantly higher influence to CRP level than PROM. 3. The PROM duration correlate to CRP blood level, but not to the EONS onset. 4. CRP is good inflammation marker and its diagnostic value, if serial measurements are performed, is high, complementing clinical and other laboratory criteria for EONS, greatly contributing in differentiating infected from uninfected term neonates.

Key words: CRP, PROM, early neonatal sepsis

O – 0072 | ORAL | NEURODEVELOPMENTAL OUTCOME IN PRETERM INFANTS

IMPLICATIONS OF PERINATAL MORBIDITIES AND ASSOCIATION OF NUTRITION IN NEURODEVELOPMENT

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Abstract:

Nutrition is one of the main factors that affect neurodevelopment. The development of immature brain of neonates makes it particularly vulnerable to nutritional disorders.

Aim: To evaluate association of nutrition during neonatal period in combination to morbidities, with neurodevelopment outcome at 2 years.

Methods: Nutrition assessment during hospitalization in context of prospective study assessing longitudinal neurodevelopmental outcome using Bayley-III. Growth and nutrition in association to morbidities were recorded in 63 neonates GA ≤29 wk and correlated to scores for cognition, motor and language.

Results: All neonates (GA 27.1±1.3, BW 975±228) received protein [1st day: 1.2 ± 0.38, 7th: 3.2 ± 0.8, 14th: 3.4 ± 0.55, 30th: 3.6 ± 0.56(gr/Kg)], fat (1st day: 0.7 ± 0.7, 7th: 2.9±0.99, 14th: 4.1±1.5, 30th: 5.2 ± 1.8 (gr/Kg)) and energy (Kcal) (1st day: 40.1 ± 8, 7th 82.8±17, 14th (21±13). 3/63 infants were classified as SGA at birth and 34/63 at discharge, with hospitalization 74.3±30.2 days.

Conclusion: Optimal energy supply are associated with better neurodevelopmental outcome. ELBW received lower calories compared to VLBW. ELBW infants had significantly lower scores in Cognitive and Language, with no differences in Neurodevelopmental Impairment rate. ELBW had a higher percentage of BPD, more transfusions and delay in achieving full enteral feeding. NEK and sepsis did not differ between groups.

Neonates with sepsis received fewer calories and fat in 1st and 2nd week compared to neonates without sepsis, but sepsis did not affect scores. Neonates with NEC had lower scores on cognitive. Neonates with BPD had lower scores compared to those without BPD. Many factors affect neurodevelopment of prematures however, nutrition is important. Adequate energy supply management coupled with optimal approach to complications is compulsory for better development of extremely premature neonates.

O – 0073 | ORAL | PUBLIC HEALTH

PRENATAL HEARING SCREENING PREDICTION LEVEL IN DETECTION OF VERBAL COMMUNICATION DISORDERS IN CHILDREN

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Abstract:

Objective: To examine the prediction level of Prenatal hearing screening (PHS) test in detection and estimation of speech and language abilities in children from low and high risk pregnancies.

Methods: Research sample included N=62 children aged from 3.6 to 4.6, divided into: Experimental group (E=32) consisted of children from high risk pregnancies and Control group (C=30) consisted of children from normal pregnancies. All children were tested by PHS in prenatal period. The procedure of PHS is described in the paper. Methodological procedure included the assessment of speech-language development (IEPSP Battery tests) in both groups of children.

Results: PHS results showed that index of relative Pi value changes in interval from 08.6 % do 14.1% may be considered as values of fetal reactivity in low-risk pregnancies, while Pi values changes in interval from 14.4% and higher values may be considered as values of fetal reactivity in high-risk pregnancies. Children who had relative Pi values changes Pi ≤ 14.1% obtained significantly better results in estimation of speech and language developmental level (p=0.048) and sensory motor develomental level (p=0.032); they have significantly higher number of correctly pronounced voices (p=0.039), higher average number of words during Strip story description (p=0.037), and better graphomotor maturity (p=0.016) in relation to children who had relative Pi values changes Pi ≥ 14.4%, regardless of the pregnancy condition.

Conclusions: The values of Pulsatility index (Pi) registered by PHS may be used as diagnostic parameters in prenatal auditory perception examination. Obtained results regarding fetal reactivity to defined sound stimulus in low and high risk pregnancies enable prediction of speech and language development in postnatal period and contribute to improvement of preventive measures and activities in the area of early childhood development.

Key words: prediction, prenatal hearing screening, verbal communication disorders

O – 0074 | ORAL | NONINVASIVE PRENATAL DIAGNOSIS

ANALYTICAL VALIDATION OF A SNP-BASED NON-INVASIVE PRENATAL TEST TO DETECT THE 22Q11.2 DELETION

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Abstract:

Objective: Non-invasive prenatal testing (NIPT) for aneuploidy using cell-free DNA in maternal plasma has been widely adopted. Recently, NIPT coverage has expanded to detect subchromosomal abnormalities including the 22q11.2 deletion. Previously, validation of a SNP-based NIPT for detection of 22q11.2 deletions demonstrated high sensitivity (97.8%) and specificity (99.75%). Our objective was to validate the performance of a revised version of the test in a larger set of pregnancy plasma samples.

Methods: Blood samples from pregnant women (10 with 22q11.2-deletion–affected fetuses and 390 negative controls) were obtained at participating hospitals and contract research organizations. Samples were analyzed using a revised SNP-based NIPT for the 22q11.2 deletion (e.g., the algorithm's confidence threshold was raised to 0.95 and all "high-risk" samples with deletion of the maternal haplotype were reflexively sequenced at high depth of read [14x106 reads/sample]). Samples were amplified and sequenced using pooled primer sets that included 1,351 SNPs spanning a 2.91 Mb of the 22q11.2 region. The sensitivity and specificity of the assay were measured. Results: Sensitivity of the assay was 90% (9/10), and specificity of the assay was 99.74% (389/390), with a corresponding false positive-rate of 0.26%.

Conclusion: This validation of the revised SNP-based assay in a set of plasma samples from pregnant women demonstrates that the test detects the 22q11.2 deletion with high sensitivity and specificity. Given the benefits of early intervention in patients with the 22q11.2 deletion and the high incidence of the condition, this SNP-based methodology provides a valuable addition to current population-wide prenatal screening approaches.

O – 0075 | ORAL | OBESITY DURING PREGNANCY

INFLUENCE OF BODY MASS INDEX ON HIGH SENSITIVE C-REACTIVE PROTEIN AND PROCALCITONIN SERUM LEVEL IN THE THIRD TRIMESTER OF PREGNANCY

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Abstract:

Objective: It is well accepted that adiposity in general is associated with significantly higher circulatory levels of different inflammatory markers. The aim of this study was to investigate whether such correlation between proinflammatory markers and body mass index (BMI) is present in pregnant women as well.

Methods: 30 pregnant women in third trimester of pregnancy were included in the present study. They were categorized based on BMI in three groups: 6 patients with BMI <24.9kg/m2 (BMI I), 11 patients with BMI 25-29.9 kg/m2 (BMI II) and 13 patients with BMI>30 kg/m2 (BMI III). The inflammatory markers (high sensitive C reactive protein (hsCRP) and procalcitonin (PCT)) were measured between 28 1/7 and 32 0/7 weeks of gestation. Perinatal outcome was analysed in all participants.

Results: There was no difference in age and smoking habits between all three grops of subjects. Authors found statistically significant difference in hsCRP mean values between groups: BMI I 4.637 mg/l, BMI II 5.720 mg/l; BMI III 10.910 mg/l (P= 0.002). However, there was no statistically significant in PCT mean values between groups: BMI I 0.0218 ng/ml; BMI II 0.0229 ng/ml; BMI III 0.0261 ng/ml (P= 0.456). Regarding perinatal outcome, there was no difference in gestational age at the time of delivery and incidence of IUGR between these three groups. Cesarian section rate tended to increase with higher BMI in pregnant women.

Conclusions: Maternal obesity in third trimester of pregnancy is associated with an increase of hsCRP with increasing BMI category. Further research is needed to determine connection between obesity-induced inflammation and maternal and fetal health.

Keywords: pregnancy, body mass indeks, C reactive protein, procalcitonin

O – 0076 | ORAL | OBESITY DURING PREGNANCY

THE IMPACT OF MATERNAL OBESITY ON PLACENTAL PHYSIOLOGY AND FETAL DEVELOPMENT

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Abstract:

The aim of the paper is to realize an update concerning the published data on the correlation between maternal obesity, placental dysfunction and fetal development. The association between gestational obesity and maternal-fetal health remains incompletely known, themechanisms linking the maternal obesogenic environment and the short and long term fetal consequences being complex and partly unknown. We analyzed the online data published in Pub Med and Cochrane databases over the past 5 years on the impact of obesity on pregnancy and fetal and neonatal outcome.

Reproduction is controlled by the maternal energy balance, adipokines playing a significant role in providing a favorable environment for implantation and placentation. During pregnancy, the placenta secretes cytokines with significant role in the fetal allograft fate. The production of TNFα, IL-6 and IL-1β contributes to the increase of proinflammatorystate creating a low-level inflammation called meta-inflammation. This state generates intolerance to maternal glucose and insulin resistance conducting to cardiovascular and neuroendocrinemodulation. The levels of maternal adipokines and hormones with metabolic effects and their ways of interaction with placental function and fetal growth were examined. Maternal obesity generates a vicious circle: newborns have a two times higher risk of infant obesity, metabolic, cardiovascular, neuropsychiatric and cognitive complication and a depressed and anxious phenotype, with socializing and hyperactivity disorders. Programming hypothalamic development affected by leptin resistance controls organ growth, including brain, appetite and cognition.

There is a close link between the maternal nutritional status, body fat metabolism, placental function and nutrient transfer to the fetus, controlling fetal growth. Maternal obesity is correlated with an adipokine-induced inflammatory process that interferes with maternal glucose intolerance, insulin resistance, neuroendocrine and cardiovascular modeling associated with changes in BMI. In obese pregnancies, pro-inflammatory cytokines include high maternal circulating levels of TNFα, IL-6 andleptin, while adiponectin levels are reduced, increasing the transplacental nutrient transport leading to the development of macrosomes. Overexpression of placental TLR4 in obese pregnancies correlates with increased IL-6 expression, hyperglycemia and maternal insulin resistance, thus associating increased risk of premature birth, preeclampsia and placental endothelial dysfunction. This is manifested by the reduction of both the PIGF and the VEGF / Flt1 ratio, limiting angiogenesis and generating a reduction in nutrient transport to the fetus and, consequently SGA or IUGR. Maternal obesity can cause the birth of a very wide range of birth-weight newborns, which has a major impact on the child's later neurobehavioral development. Restoring maternal adiponectin levels in obese pregnant women could be considered a method of preventing obesity and metabolic diseases in the descendants.

Key words: maternal obesity, placental function, fetal growth, metabolic programming.

O – 0077 | ORAL | OBESITY DURING PREGNANCY

THE RELATIONSHIP BETWEEN FETAL DEVELOPMENT AND MATERNAL GESTATIONAL WEIGHT GAIN

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Abstract:

Background: Fetal environment, maternal characteristics and lifestyle play a role in the origin of several chronic diseases manifesting later in life. It is widely suspected that fetal growth is mediated by nutritional availability during critical periods of gestation, being controlled by complex mechanisms of "fetal programming". Gestational weight gain is thought to influence pregnancy outcomes and fetal development, although the actual mechanisms are not fully understood.

Objectives: The aim of this study was to investigate the relationship between fetal weight, maternal gestational weight gain through pregnancy and maternal serum adipokines.
Methods: We enrolled in our study 67 pregnant women who were followed throughout their pregnancy, recording data about pre-pregnancy body mass index, gestational weight gain at the end of each trimester, total gestational weight gain, fetal biometry, fetal weight and maternal serum levels of adiponectin and visfatin. All patient data was collected from patient files in the Bucharest University Emergency Hospital.

Results: More thana half of the pregnant women enrolled in our study were classified as having an "excessive weight gain" or obesity. Obese women had a lower weight gain following the first trimester. These women exhibited lower levels of adiponectin and gave birth to larger babies. Fetal weight inversely correlated with maternal serum adiponectin. Visfatin levels showed inconstant results, but the highest levels were found in mothers who gave birth to large for gestational age neonates.

Conclusion: Gestational weight gain is an important factor implied in fetal development, being known to influence fetal and pregnancy outcomes. Fetal weight is influenced by maternal adiposity, which may be investigated by evaluating the interplay of certain adipokines throughout pregnancy.

Keywords: adipokines, gestational weight gain

O – 0078 | ORAL | FETAL AND NEONATAL SURGERY

PERCUTANEOUS PATENT DUCTUS ARTERIOSUS CLOSURE IN PRETERM INFANTS: A SINGLE CENTER EXPERIENCE FROM TURKEY

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Abstract:

Background: Patent Ductus Arteriosus (PDA) is associated with morbidity and mortality in preterm newborns. Risk of PDA is increasing as birth weight and gestational week decreasing. Closure of hemodynamically significant PDA can be maintened with drug therapy, catheter based or surgical ligation.

Aim: To describe our experience and emphasize the efficacy and safety of percutaneous PDA closure.

Methods: Between January 2014 - December 2016, ten preterms who underwent cardiac catheterization for percutaneous PDA closure in Gaziantep University Hospital Neonatal Intensive Care Unit enrolled.

Results: Baseline characteristics of patients and ductus summarized in the table 1. The median gestational week and body weight during the procedure was 29,2 weeks (range 26-35) and 1542 gram (range, 1060-2350). The primary reason for transcatheter closure was respiratory insufficiency. ADO II equipment in different sizes was used for all patients. The median ductus diameter was 3,1 mm (range 2.4-4.0 mm). Technical success was achieved in seven patients. Three attempts were unsuccessful; one of them was due to the incompatibility of the ductal anatomical structure. In the other two patients, emergent surgery required because of complications such as femoral arterial injury and device embolisation. In these patients, PDA ligation was performed during surgical repair and removal. On the control echocardiographic examination after the procedures, there was no residual shunt and iatrogenic coarctation of aorta, and none of the patients had left pulmonary artery obstruction. There was no procedure related death.

Conclusion: Percutaneous PDA closure is generally safe and feasible in this age and weight group. If the drug treatment fails, catheter based PDA closure is a good alternative for surgical ligation with technical difficulties in very low birth weight preterms.

O – 0079 | ORAL | POSTNATAL GROWTH

HORMONAL ASPECTS OF POSTNATAL GROWTH FROM BIRTH TO AGE OF SIX MONTHS IN INFANTS WITH ASYMMETRICAL AND SYMMETRICAL INTRAUTERINE GROWTH RETARDATION

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Abstract:

Objective. To evaluate changes in "Growth Hormone (Gh) - Insulin-Like Growth Factor (Igf-1)" axis and insulin sensitivity in infants with asymmetrical and symmetrical intrauterine growth retardation (IUGR) in association with postnatal growth.

Methods. Forty infants with IUGR (24 with asymmetrical and 16 with symmetrical type and 17 appropriate for gestational age (AGA)) were followed for 6 months after birth. The fasting GH, IGF-1, insulin and glucose serum levels were measured at 3 and 6 months of age. Insulin sensitivity was evaluated by HOMA-IR. Body weight and length were measured at birth, at 3 and 6 months of age. "Catch-up" growth was determined as a weight and/or length gain from less than 10th percentile to 50th percentile during months 0 to 3 or months 3 to 6. Results are shown as ME (25-75%).

Results. "Catch – up" growth was observed in infants with asymmetrical (72.8%) and symmetrical (62.5%) IUGR during first three months. at 3 months of age, symmetrical IUGR infants with "catch – up" growth had higher IGF-1 (128.0(102.5-131.5) NG/ML), and GH (9.0(4.76-11.5) NG/ML) levels compared to asymmetrical IUGR infants with "catch – up" growth (64.0(51.5-110.0) NG/ML, 1.97(1.3-4.2) NG/ML, P<0.05, RESP.) and controls (75,0(52.0-101.0) NG/ML, 3.15(1.9-4.3) NG/ML, P<0.05, RESP.). HOMA-IR was higher in symmetrical IUGR infants compared to controls (1.09(0.9-1.6) VS 0.8(0.4-0.9), P<0.05). At 6 months of age, the IGF-1, GH levels and HOMA-IR in symmetrical IUGR infants (60.7(41.4-126.2) NG/ML, 3.0(2.5-4.2) NG/ML, 0.57(0.3-0.7), P<0.05, RESP.) decreased compared to those obtained at 3 months. Asymmetrical IUGR infants with "catch – up" growth were similar in IGF-1, GH levels and HOMA-IR at 3 and 6 months of age.

Conclusions. higher GH, IGF-1 levels and HOMA-IR at 3 months of age in symmetrical IUGR infants with "catch – up" growth are associated with more intensive growth velocity (weight and length gain).

O – 0080 | ORAL | POSTPARTUM HEMORRHAGE

MANAGEMENT OF ACUTE OBSTETRIC DISSEMINATED INTRAVASCULAR COAGULATION (DIC) BY HUMAN SOLUBLE THROMBOMODULIN

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Abstract:

Objectives. Disseminated intravascular coagulation (DIC) is a syndrome characterized by systemic activation of coagulation which results in widespread fibrin deposition and excessive consumptions of platelets and clotting factors. Main pathophysiology of DIC could be divided into massive generation of thrombin and its activation due to underlying disorders, for instance, a complication of infection, malignancy and trauma. DIC leads to multiple organ failure and affects prognosis but effective treatment is still controversial. Recombinant human soluble thrombomodulin (rhTM) is a novel anticoagulant agent composed of active and extracellular domains of thrombomodulin. It reduces excessive thrombin generation and regulates imbalanced activation of coagulation systems. In addition, rhTM has anti-fibrinolytic and anti-inflammatory properties that are appeared to mitigate catastrophic conditions of DIC. Although the efficacy of rhTM for obstetric DIC is still uncertain, it has been reported that rhTM potentially reduces morbidity and mortality in sepsis-induced DIC patients. The aim of this study is to examine whether rhTM administration could be effective for DIC patients induced by obstetric underlying disorders.

Methods. This study is a retrospective cohort study in a single perinatal medical center performed between January 2007 and December 2015. Eligibility criteria are obstetric DIC (known or suspected) documented on the basis of clinical and laboratory data and association with one or more major underlying obstetric disorders. The number of patients on each group is adjusted by propensity score, which is composed of thirteen independent variables: age, amount of bleeding, underlying disorders (severe postpartum hemorrhage, placental abruption, preeclampsia or eclampsia that includes hemolysis, elevated liver enzymes and low platelet levels), initial laboratory data (white blood cell count, hemoglobin levels, platelet levels, D-dimer concentration, fibrinogen levels, prothrombin time intranational ratio (PT-INR)), DIC score published by Japanese Association for Acute Medicine and obstetric DIC score published by Japanese Society of Obstetrics and Gynecology. We evaluated both laboratory findings and clinical conditions at the early phase.

Results. Seventy-two patients admitted to our hospital fulfilled the criteria. Forty were categorized as a rhTM group and thirty-two were categorized as a control group. Adjusting two groups, treatment by rhTM was associated with significant improvements in platelet levels, D-dimer concentration, fibrinogen levels and PT-INR. The amounts of platelets transfused was significantly lower in a rhTM group (3.02 vs 6.03 units, P=0.016). None of the adjusted group differences were statistically significant for all types of multiple organ failure.

Conclusions. In DIC patients induced by obstetric underlying disorders, improvements of both clinical conditions and laboratory findings were confirmed in a rhTM group. Further clinical research is expected to clarify the optimal solution for administrating rhTM in obstetric DIC patients.

O – 0081 | ORAL | POSTPARTUM HEMORRHAGE

MENSTRUAL AND REPRODUCTIVE OUTCOME AFTER USE OF BALLOON TAMPONADE FOR SEVERE POSTPARTUM HAEMORRHAGE

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Abstract:

Objective: Balloon tamponade has been increasingly used for management of postpartum haemorrhage (PPH). However, follow-up studies on the menstrual and reproductive outcomes after the use of balloon tamponade are minimal. This study aims to explore the subsequent menstrual and reproductive outcomes for patients who had intrauterine balloon tamponade inserted for postpartum haemorrhage in her index pregnancy.

Methods: All the pregnant patients who had delivery in United Christian Hospital over a 5-year period from July 2011 to June 2016 with balloon tamponade inserted for PPH were included. Patients who had hysterectomy performed were excluded. A questionnaire on menses, fertility and reproductive outcome was mailed to these patients. Those that did not reply within four weeks would receive a telephone survey by the principal investigator. Patient's data such as parity, gestation, mode of delivery and amount of blood loss will be retrieved from the obstetric electronic database system and clinical case records.

Results: A total of 45 patients were recruited for the study, which represented 88% of all eligible patients within the study period. The incidence of normal menstrual function was 97.8%. The median follow up period was 38 months. None of the patients reported secondary subfertility after the index pregnancy, and all conceptions occurred within 12 months from stopping contraception. There were 9 pregnancies reported, including one miscarriage, one scar pregnancy, two induced abortions, and five normal pregnancies with full term deliveries. Two of the deliveries were complicated by recurrent postpartum haemorrhage that was controlled by oxytocins. The majority (95.5%) of patients were satisfied with using Bakri balloon for PPH management in their index pregnancy.

Conclusion: Intrauterine balloon tamponade for the management of severe PPH appeared to pose little adverse effects on subsequent menstrual and reproductive function.

O – 0082 | ORAL | PERINATAL OUTCOME

A RETROSPECTIVE COHORT ANALYSIS OF RETAINED PRODUCTS OF CONCEPTION WITH VASCULARITY AFTER SECOND-TRIMESTER ABORTION: INCIDENCE, OUTCOMES, AND ULTRASONOGRAPHIC FEATURES LEADING TO SEVERE HEMORRHAGE

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Abstract:

Objectives. The aim of this study was to investigate the incidence and spontaneous outcomes of retained products of conception (RPOC) with vascularity detected by ultrasonography after second-trimester abortion, and to identify the sonographic features related to the development of severe hemorrhage.

Methods. This was a retrospective cohort study on cases after second-trimester medical abortion managed at our institute between January 2014 and December 2016. RPOC with vascularity was defined by the presence of measurable hyperechoic focus with blood flow by two-dimensional grey scale and color Doppler transvaginal ultrasonography (TVS). The vascularity of RPOC was assessed by categorizing cases as follows; type1: vascularity confined to endometrium, type2: vascularity reaching <1/2 myometrium, type3: vascularity reaching >1/2 myometrium.

Results. A total of 101 cases was included in this study. All cases were evaluated by grey scale and color Doppler TVS within 2 weeks after delivery. Among them, 17 cases (16.8%) were diagnosed as RPOC with vascularity (type1:4 cases, type2:8 cases, type3:5 cases). All cases were managed expectantly, and 4 cases (23.5%) eventually failed expectant management due to severe hemorrhage treated by uterine artery embolization (UAE). Of them, 60% (3/5) of cases with type3 developed severe hemorrhage as compared with 8.3% (1/12) of cases with type1/type2 ($p < 0.05$, chi-square test). Cases in which expectant management failed showed the significantly larger maximum linear size of RPOC (46.2±11.1 mm vs 22.3±7.8 mm, $p<0.01$, Mann–Whitney U test).

Conclusion. Our study results suggested that the incidence of RPOC with vascularity is substantially high in cases after second-trimester abortion, and the degree of vascularity and the size of RPOC are associated with the development of spontaneous severe hemorrhage. The assessment of RPOC using color Doppler TVS appears to be essential in distinguishing high-risk patients in need of earlier intervention including UAE.

O – 0083 | ORAL | LABOR INDUCTION

A COMPARITIVE STUDY OF TITRATED ORAL MISOPROSTOL IN SOLUTION VERSUS VAGINAL MISOPROSTOL FOR LABOUR INDUCTION

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Abstract:

Objective: The objective of this study was to compare the efficacy and safety of hourly titrated oral misoprostol in solution (OMS) with vaginal misoprostol (PV) for labour induction.

Method: Randomized Controlled Trial, double blind study was conducted in the Delivery Unit of Moh. Hoesin hospital from January-November 2016. Women ≥30 weeks of gestation with unfavorable cervix and indication for labor induction were randomly assigned to receive OMS or PV. The OMS group received a basal unit of 20 ml misoprostol solution (1 μg/ml) every 1 hour for 4 doses and were titrated against individual uterine response. In the absence of regular uterine contractions, the dose was increased to 40 ml hourly for 4 doses and 60 ml for 4 doses. The vaginal group received 25 μg every 4 hours until attaining a more favorable cervix for 3 doses. All the subjects received amylum placebo. In labour within 12 hours was the primary outcome.

Results: Total of 30 women was enrolled in the study. The average interval from induction until in labour stage in OMS group was 5,75±3,14 hour and 6,60±4,46 hour in PV group (p = 0,56). In labour stage was achieved within 12 hours in 14 women (100%) in OMS group and 14 women (93,3%) in PV group (p = 1,00). Vaginal delivery was achieved within 24 hours in 13 women (92,9%) in OMS group and 15 women (100%) in PV group. The incidence of uterine hyperstimulation/tachysystolic was 7,1% in OMS group compared with 13,3% in PV group. Fetal distress was found only 1 case (7,1%) in OMS group. There was no difference in maternal and neonatal outcome of labour in both the groups.

Conclusion: Oral titrated in solution and vaginal route of misoprostol for induction of labour are equally effective and safe.

Key words: hourly titrated oral misoprostol

O – 0084 | ORAL | POSTPARTUM HEMORRHAGE

TRENDS IN CONSERVATIVE PROCEDURES AND PERIPARTUM HYSTERECTOMY RATES IN SEVERE POSTPARTUM HAEMORRHAGE - A 16 YEAR RETROSPECTIVE COHORT STUDY

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Abstract:

Objective: To explore whether increased utilization of second-line conservative surgical procedures in management of severe postpartum hemorrhage (PPH) will alter the rates of peripartum hysterectomy.

Methods: This was a retrospective cohort study of all patients with gestation >=28 weeks with severe PPH (>=1.5 L) within 24 hours of delivery from year 2000 to 2015 (16-year period) in a tertiary obstetric training unit. Basic patient anthropometric characteristics and the main causes for PPH were calculated. The incidence of second-line conservative surgical procedures including intrauterine balloon tamponade, compression sutures, radiological embolization, surgical devascularization, and the rates of peripartum hysterectomies were evaluated. The data was then stratified into four 4 years-intervals (4 quadrennium) to compare trends.

Results: The incidence of severe PPH gradually increased over the study period (lowest 0.21% in 2002 to 0.76 % in 2015) ($p<0.001$). There is an obvious increasing trend in the overall use of second-line surgical procedures from nil to 82% ($p<0.001$), with balloon tamponade constituting up to 48%. The incidence of successful second-line procedures increased gradually from 72.2% in the second to 89% in the fourth quadrennium. The total peripartum hysterectomy rate among cases of severe PPH dropped from 40.2% in the first to 10.9% in the fourth quadrennium ($p= 0.04$).

Conclusions: Despite the increasing trends in PPH, the increasing utilization of second-line conservative surgical procedures in severe PPH was associated with a reduction in the need for peripartum hysterectomy.

Keywords. Postpartum hemorrhage, peripartum hysterectomy, caesarean section, second-line therapy, balloon tamponade, trend

O – 0085 | ORAL | POSTPARTUM HEMORRHAGE

DIFFERENCES BETWEEN EXPECTED AND UNEXPECTED PERIPARTUM HYSTERECTOMIES

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Abstract:

Brief Introduction Our aim was to present the different perioperative characteristics of expected and unexpected peripartum hysterectomies, in a university tertiary referral center.

Materials and Methods. We retrospectively assessed all cases of peripartum hysterectomy at Alexandra maternity hospital performed between January 2008 and June 2013.

Clinical Cases or Summary Results. A total of 22,437 deliveries were scanned during the study period and among them we identified 63 cases of peripartum hysterectomy (2.8 cases per 1.000 deliveries). 34 of them were considered expected peripartum hysterectomies, while 29 were unexpected hysterectomies. Significantly higher morbidity was observed in the unexpected group compared to the expected one (65.5% vs 29.4%) (p=0.004). Moreover, in the same group, blood and plasma transfusion rate, colloid and crystalloid administration rate, as well as operative and hospitalization time were all significantly higher. The need for hypogastric arteries ligation or embolization and for administration of recombinant factor VII was also higher in the unexpected hysterectomy group.

Conclusions. In cases of unexpected peripartum hysterectomy the total morbidity was higher than in expected cases. The need for additional measures to control hemorrhage was also higher in this group of patients.

O – 0086 | ORAL | PERINATAL OUTCOME

IMMUNOHISTOCHEMICAL STUDY OF TUMOR SUPPRESSOR PROTEIN P53 AND FAS LIGAND IN PLACENTA TISSUES IN RECURRENT PREGNANCY LOSS

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Abstract:

Objectives For more than 50% of the cases of recurrent pregnancy loss no specific etiology is found and as a result they are characterized as idiopathic. In order to explain the changes participating in this clinical entity, the existence of two proteins in placenta tissue was tested in our study. Protein p53 in tumor suppressor and FAS ligand, are the two antigens with their known relation with apoptosis which are mentioned in references to be elevated in recurrent pregnancy loss. This study aims to relate apoptosis with unexplained miscarriages.

Methods The study group consisted by twelve women, aged 35-42 years old, who had a pregnancy loss during the first semester of gestation and had already two recurrent miscarriages. The control group consisted also by twelve healthy women, aged 27-39 years old, who had electively terminated their pregnancy during the first semester. Specimens from the abortion material were studied using immunohistological methods. In first place, monoclonal antibodies of cytokeratin CK7 were used to identify trophoblastic cells and antibodies for prolactin in order to recognize the cells of decidua basalis. After the cell verification monoclonal antibodies were used against p53 and FAS ligand, which are the two elements studied.

Results In specimens taken from the study group, p53 expression was identified in deciduas basilis and trophoblastic cells. Regarding FAS ligand, it was found to be expressed not only in trophoblastic cells but also in deciduas basilis in women with unexplained miscarriages. Neither p53 or FAS ligand was detected in specimens taken from the control group.

Conclusions Taking into consideration our immunohistological findings from abortion specimens, it is shown that there is an increase in apoptosis. Both p53 and FAS ligand are part of apoptotic mechanisms and seem to play a critical role in spontaneous abortions. There are also other references indicating that both of them should be included in etiology of unexplained miscarriage. These findings reveal another target in etiopathology of miscarriages and hopefully can contribute to the prevention of recurrent pregnancy loss.

Keywords Protein p53 in tumor suppressor and FAS ligand, recurrent pregnancy loss

O – 0087 | ORAL | PREDICTION AND PREVENTION OF PRETERM BIRTH

PRIMIPAROUS SINGLETON WOMEN WITH ENDOMETRIOSIS HAVE AN INCREASED RISK OF PRETERM BIRTH: META-ANALYSES

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Abstract:

Objective: The objective of this study was to assess the association between women with endometriosis and risk of preterm birth

Methods: Two reviewers independently determined all prospective cohort study, retrospective cohort study, large population based cohort study, retrospective secondary analysis, and double blinded, multicentric, observational and cohort study, placebo-controlled, randomized clinical trial published using PubMed MEDLINE database, Korea education and research information service (KERIS) and Scopus from March 1994 through February 2016 database without language restrictions comparing obstetric outcomes women with endometriosis and women without endometriosis. The meta-analysis was performed following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement. Six studies met inclusion criteria, including 50,472 women. Among 50,472 pregnancies, 39,659 had endometriosis and 10,813 had no endometriosis. Meta-analyses were estimated with odds ratios (OR) and 95% confidence intervals (95% CI) using random effect analysis according to heterogeneity of studies.

Results: Data from six effect sizes from six studies involving 50,472 patients were enrolled. These meta-analyses showed women with endometriosis have an increased risk of preterm birth (odds ratio 1.473; 95% confidence intervals 1.216, 1.785).

Conclusion: These meta-analyses demonstrate women with endometriosis at pregnancy have an increased risk of preterm birth. Therefore, it is worthy for obstetrics to increase the careful inspection in women with endometriosis during pregnancy.

O – 0089 | ORAL | PREECLAMPSIA PREDICTION AND PREVENTION

THE ROLE OF LABORATORY MARKERS AND ULTRASOUND PARAMETERS IN PREDICTION OF PREECLAMPSIA

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Abstract:

Aim of this study was to assess the value of angiogenic proteins and uterine artery Doppler parameters in the prediction of preeclampsia.

Material and methods: The study was conducted at University of Novi Sad, Faculty of Medicine and Clinical Center of Vojvodina in Novi Sad. The study included 122 pregnant patients between 11+0 and 13+6 week of gestation. Preeclampsia was diagnosed in 55 cases and other 67 patients were control normotensive group. Serum angiogenic proteins (sFlt/1, VEGF/A and PlGF) were determined by sandwich enzyme immunoassay test (R&D Systems Europe Ltd. Abingdon, UK) and ultrasound parameters of uterine artery (the presence of notch in early diastole, resistance index (RI) and pulsatility index (PI)), was measured with Color Doppler on General Electric, Voluson Pro device.

Results: ROC analysis of serum angiogenic levels showed that sFlt/1, PlGF and VEGF/A had sensitivity of (88%, 85% and 67%) and specificity of (79,6%, 73% and 59%) respectively. Multivariate logistic regression analysis showed that independent predictors of preeclampsia were PI - left, PI right and RI-right.

Conclusion: Serum antiangiogenic protein sFlt/1 and Doppler ultrasound parameters: PI - left, PI right and RI-right showed significant predictive value in preeclampsia, in the first trimester of pregnancy.

Keywords: preeclampsia, angiogenic proteins, uterine artery Doppler

O – 0090 | ORAL | PREECLAMPSIA PREDICTION AND PREVENTION

EXPRESSION OF ANTIVIRAL PATTERN-RECOGNITION RECEPTORS IN PLACENTA AND MYOMETRIUM IN SEVERE PREECLAMPSIA

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Abstract:

There is immune tolerance disturbance in women with preeclampsia. However, the role of antiviral pattern-recognition receptors (NOD1, TLR9) is still unknown.

Aim. The aim of the study was to investigate expression of NOD1, TLR9 in the placenta and myometrium at normal pregnancy and severe preeclampsia.

Methods. We examined 15 samples: 9 - from women with severe preeclampsia and 6 - normal pregnancy. Histological study of serial paraffin-embedded sections, immunohistological study with NOD1 and TLR9 primary monoclonal antibodies were performed.

Results. NOD1 and TLR9 cytoplasmic staining in cells of myometrium, amnion, decidua, syncytiotrophoblast, endothelium of placental villi was identified in both groups. More intensive staining of NOD1 in syncytiotrophoblast and endothelium of placental villi was revealed in normal pregnancy than preeclampsia (0,461+0,0518, 0,403+0,0429 and 0,449+0,243; 0,358+0,0376, respectively) ($p<0,05$). Additionally, lower expression of TLR9 in syncytiotrophoblast and endothelium of intermediate placental villi was observed in preeclampsia compare to normal pregnancy. Expression of the NOD1 and TLR9 in myometrial muscle cells in normal pregnancy were moderate and uniform, whereas significant irregular variations of markers expression in preeclampsia were observed.

Conclusion. Expression of the NOD1 and TLR9 in myometrium and placenta in preeclampsia is lower, than normal pregnancy. Changes in the number of antiviral pattern-recognition receptors may be involved in the pathogenesis of preeclampsia.

Key words: placenta, pregnancy, preeclampsia, trophoblast, TLR9, NOD1

O – 0091 | ORAL | PREECLAMPSIA PREDICTION AND PREVENTION

ATTENUATION OF ANGIOTENSIN II-INDUCED PREECLAMPTIC SYMPTOMS BY RECOMBINANT THROMBOMODULIN IN MICE - A NOVEL THERAPEUTIC APPROACH FOR PREECLAMPSIA

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Abstract:

Objective: Preeclampsia (PE) is a relatively common pregnancy related disorder. Endothelial dysfunction is known to be a major factor of pathoetiology in PE. Recombinant thrombomodulin (rTm), a novel anticoagulant is reported to have anti-inflammatory function that could modify endothelial damage. We examined the efficacy of rTm administration in a mouse model of preeclampsia.

Methods: AngiotensinII(AngII) was continuously injected for 7 days from pc 10 to 17 using the osmotic pump. The pump was implanted in the pregnant mice or nonpregnant female mice. rTm was administered intraperitoneally for 4 days from pc 13 to 16. In the control mice, saline was administered during the same period. Maternal blood pressure (BP) was monitored daily after the pump implantation. Blood and urine samples were collected before and after starting of rTm or saline injection. On pc 17, the mice were sacrificed. The fetuses and placentas were excised and weighed.

Results: Continuous infusion of Ang II induced the symptoms mimicking human PE. Significant elevation of BP was confirmed from day 3 after starting Ang II infusion. The hypertension caused by AngIIwas more obvious in the pregnant mice than the nonpregnant control. Occurrence of Proteinuria was limited to pregnant mice. Ang II infusion caused growth restriction in the fetuses. Administration of rTM significantly attenuated all of the three symptoms of PE. On pc 17, the difference between rTM group and the non-treated control were as follows, SBP; rTM:149±21mmHg control:199±15mmHg, $p<0.001$, proteinurea; rTM:40±13 control:78±12, $p<0.001$, and fetal weight; rTm:0.7±0.07g control:0.61±0.05g, $p<0.001$.

Conclusion: rTM attenuated Ang II-induced PE symptoms in the mouse model. Our findings suggest that rTm might be a novel approach for the therapy of PE.

O – 0092 | ORAL | PREECLAMPSIA PREDICTION AND PREVENTION

SERUM AUTOTAXIN LEVEL AS A BIOMARKER TO REFLECT PLACENTAL FUNCTION

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Abstract:

Objectives: Autotaxin (ATX) is a secretory enzymatic protein which catalyzes hydrolysis of lysophosphatidylcholine and generates lysophosphatidic acid, a multipotent lipid mediator. Enhanced production of ATX has been reported in malignant tumors, atherosclerosis, lung fibrosis. In our previous studies, placenta is a major source of ATX detected in the peripheral blood in pregnant women.Placental ATX production was diminished in the women with preeclampsia (PE). This study aimed to examine the association of peripheral ATX concentration with the placental weight and the fetal weight.

Methods: We collected serum samples from 148 women with singleton pregnancy, including 116 women of uncomplicated pregnancy and 32 women complicated with preeclampsia (PE) and/or fetal growth restriction (FGR). Serum ATX concentration was determined by ELISA. The correlation of ATX to the placental weight, the birth weight of the fetus and birth weight to placental weight ratio (BPR) were investigated among the subjects.

Results: The peripheral ATX levels increase with the progress of gestation, reaching its peak at term pregnancy and rapidly returns to pre-pregnancy level at postpartum period. The peripheral ATX levels in the second trimester was negatively correlated to BPR ($R=0.72$ $P<0.001$), whereas no correlation to the birth weight and the placental weight was not observed. This correlation between BPR and ATX was not confirmed in the serum samples obtained from the third trimester. This finding implied that the placenta in the second trimester has a compensation mechanism to regulate ATX production to adjust fetal growth in the following pregnancy. In the pregnancy complicated with PE and/or FGR, a positive correlation between ATX and BPR was observed, suggesting an opposite tendency compared with normal pregnancy.

Conclusion: The findings in this study suggest that placental ATX plays a role in the regulation of placental function to support fetal growth. In addition, an impairment of this compensation mechanism might be in the pathology of PE and FGR.

Key words: ATX, PE, FGR, placenta

O – 0093 | ORAL | PREECLAMPSIA PREDICTION AND PREVENTION

THIRD TRIMESTER OF PREGNANCY, PREECLAMPSIA AND MATERNAL CYTOKINES

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Abstract:

Objective: The purpose of the actual study was to evaluate the relationship between the formation of anti-inflammatory IL 10 cytokine and several indicators of moderate and severe preeclampsia in the third trimester of pregnancy.

Methods: Examination of the indicators of preeclampsia and maternal IL 10 levels was conducted in 100 women with pregnancies complicated by varying degrees of preeclampsia in the third trimester of gestation and in 100 normotensive patients, hospitalized at the University Clinic of Gynecology and Obstetrics, Skopje, Republic of Macedonia. Patients with preeclampsia were categorized into moderate and severe preeclampsia groups, according to the degree of preeclampsia. Logistic regression analysis was used to determine the predictive value of the different parameters for the occurrence of severe preeclampsia.

Results: The logistic regression analysis detected: systolic blood pressure of 160 mmHg or higher, diastolic blood pressure of 100 mmHg or higher, persistent proteinuria in pregnancy, serum LDH concentration of 450 U/L or higher and reduced serum concentrations of IL 10, all as significant predictors of severe preeclampsia in pregnant women, after adjusting for age.

Conclusion: The findings of significantly lower IL 10 concentrations in serum in patients with severe preeclampsia in comparison to respective concentrations in patients with moderate preeclampsia can be considered as major pathognomonic laboratory sign of severe preeclampsia.

Key words: Indicators, preeclampsia, cytokines, biochemical markers, correlation.

O – 0094 | ORAL | PREECLAMPSIA PREDICTION AND PREVENTION

PERINATAL OUTCOMES IN WOMEN WITH HISTORY OF SEVERE PREECLAMPSIA AND DECREASED ADAMTS-13 ACTIVITY

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Abstract:

The term "thrombotic microangiopathy" (TMA) brings together clinical conditions of heterogeneous nature characterized by arteriolar and capillary thrombosis with the development of hemolytic anemia, thrombocytopenia and ischemic damages leading to multiple organ failure. Thrombotic thrombocytopenic purpura (TTP) is related to more than 70 mutations of ADAMTS-13. TTP may also be due to decreased activity of ADAMTS 13 under the influence of antibodies (e.g., in patients with antiphospholipid syndrome). Recently it was shown that pregnancy is one of the main initiating agent for the development of TTP.

Aims: We studied the role of ADAMTS-13 defects in pathogenesis of severe preeclampsia.

Methods: 60 patients with severe preeclampsia starting from pregnancy 24 to 35 week including 5 patients with HELLP syndrome were tested for activity and antibodies titer to ADAMTS-13.

Results: We determined ADAMTS-13 inhibitor in high titer simultaneous with low ADAMTS 13 activity in 11 patients (18,3%), including 3 patients with HELLP syndrome. The basic therapy during pregnancy was low molecular weight heparin guided by D-dimer, serial plasmapheresis in women with low ADAMTS-13 activity, antibodies to ADAMTS-13 and progressive thrombocytopenia. 7 patients with preeclampsia and ADAMTS-13 inhibitor were delivered after 37 weeks, all babies were alive, 4 patients were delivered prematurely with 2 fetal losses (18,1%). Prospectively during pregnancy were followed 7 pts including 1 patient with history of HELLP-syndrome. All pts received LMWH and aspirin guided by D-dimer, ADAMTS-13 activity and antibodies titer. All babies were alive. 4 pts were delivered prematurely after 34 week due to the signs of preeclampsia, fetal distress and decreasing ADAMTS-13 activity.

Conclusions: Severe obstetric complications may be considered as a distinct form of thrombotic microangiopathy, including HELLP-syndrome and severe preeclampsia. Severe obstetric complications may be the mask of TMA.

O – 0095 | ORAL | PRENATAL DIAGNOSIS

POSTERIOR URETHRAL VALVES – FINDINGS IN ANTEPARTUM ULTRASONOGRAPHY

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Abstract:

Posterior urethral valves are a congenital anomaly of the lower urinary tract that occurs exclusively in male infants. In time, this can lead to varying degrees of renal or bladder dysfunctions. Most cases are sporadic, but there have been reported rare examples within the same families. Nowadays, thanks to modern ultrasound techniques in antenatal screening, most infants are diagnosed in utero, thus allowing early intervention by the ablation of the urethral obstruction. Almost half of the infants that require surgery for urinary obtruction have no evidence of hydronephrosis on prenatal ultrasound.

This anomaly of the fetus can lead to various problems such as hydronephrosis, megacystis, renal dysplasia, oligohydramnios, pulmonary hypoplasia followed by pneumothorax, intrauterine growth restriction or preterm delivery. We present a complicated case of posterior urethral valves with marked distension of the bladder as well as a thickened wall and a dilated posterior urethra, hydronephrosis, renal parenchimal change with increased echogenicity, oligohydramnios, fetal growth restriction and asociated lung malformation. Megacystis, a potential early marker of bladder outlet obstruction, can be identified starting with 11 weeks of gestation, but most cases are not seen before 26 weeks, as our case.

Postnatal ultrasound reveals the same findings. Several studies have shown a higher prevalence of renal impairement in children who had oligohydramnios, but in the same time, a normal amniotic index could not rule out renal impairement. Despite modern ultrasound tehnology, none of the mentioned antenatal ultrasound parameters can predict postnatal renal function. Keywords: antepartum ultraonoghraphy, posterior urethral valves

O – 0096 | ORAL | PRENATAL DIAGNOSIS

PATHOGNOMONIC PRENATAL ULTRASOUND FINDINGS FOR PLACENTA ABNORMALITIES

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Abstract:

The incidence of placenta abnormalities have been increasing in last two decades1. The range is about 1:2510 bis 1:533 in large cohort-studies2,3.The risk increases from 3% after one Sectio caesarea up to 6.7% after four Sectios4. The obstetricians are considered to recognize more placenta abnormalities especially after sectio caesarea delievery. In this way we could decrease the mortality obstetrics rate.

A case report from our center, 41-years old,grav.5 , para.4, about 33 weeks pregnant, after previous 2x sectio deliveries,was referred because of abnormal bleeding. Prenatal care was diagnosed with total placenta praevia. We could recognise during ultrasound scan 11 from 13 pathonogmonic signs from European Working Group on Abnormally Invasive Plazenta (EW-AIP). We just diagnosed abnormal placenta adherent (placenta increta). The next step was interdisciplinary board meeting between obstetricians, urology , anesthesiology , and pediatricians in our center. We did the caesaria delivery simultaneously with hysterectomy after informed consent to our patient in 36 weeks.

The operation was done after insertion double lumen ureteral cathether by urology in order to avoid the ureter lession. Estimated blood loss about 2000 ml, substituted with 2 packs erythrocyte concentrate blood transfusions. An iatrogenic bladder perforation during the operation could be effectively managed. The newborn is vital and appropriate for gestational age. Postoperative urinary tract infection could be completely cured.Histological findings confirm our diagnose placenta increta.
The criterias from EW-AIP (European Working Group on Abnormally Invasive Placenta)are in B-Modus , colour doppler , and 3 D. B-Modus criterias are loss retroplacenta hypoechogen areas, abnormally lacunae ,thin myometrium wall (<1mm), abnormally contour from placenta placental bulging ,or focal exophytic mass). Colour doppler ultrasound scan confirms uterovesikale hypervascularisation, subplacenta hypervascularisation,placenta-myometrane bridging vessels, and blood flow in lacunae. With 3D ultrasound scan confirms all criterias showed in volume mass 5.

Abnormally invasive placenta has high mortality and morbidity risks. A well trained ultrasound specialist should recognize this case. In case of severe abnormally invasive placenta with completed family planning, we are in opinion for sectio hysterectomy. The operation should consider inter - disciplinary departments in order to reduce the mortality rate as well as to manage any logical complication.

O – 0097 | ORAL | PRENATAL DIAGNOSIS

POSTERIOR URETHRAL VALVES VERSUS VESICO-URETERAL REFLUX IN LIVE BIRTHS: IS PRENATAL DIAGNOSIS BY ULTRASONOGRAPHY FEASIBLE?

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Abstract:

Objectives: To evaluate prenatal sonographic signs that distinguish male children born alive with posterior urethral valves (PUV) from those with vesicoureteral reflux (VUR).

Methods: Antenatal data were retrospectively retrieved for all pregnant women who delivered consecutively between 2003 and 2012 a boy born alive with a postnatal diagnosis of PUV or VUR. Prenatal parameters included fetal bladder characteristics, identification of a dilated posterior urethra, fluctuating activity in the fetal renal pelvis or ureter and amniotic fluid volume.

Results: 123 women gave birth to male infants born alive for whom there was a postnatal diagnosis of PUV in 36 cases and VUR in 87. A thickened bladder wall was highly associated with the diagnosis of PUV (30 fetuses [83.3%] versus 4 fetuses [4.6%] with VUR, p<0.000, OR 100 [95% CI 27.0-333]). An enlarged bladder was observed in 20 fetuses (55.6%) with a postnatal diagnosis of PUV and in 29 fetuses (33.3%) with VUR (p=0.027, OR 2.50 [95% CI 1.13-5.53]). A posterior urethral dilatation was visualized in 18 fetuses (50.0%) with PUV and was not present in any cases of fetuses with VUR (p<0.000, OR 173 [95% CI 9.97-3001]). In addition, oligoanhydramnios appeared to be strongly associated with the postnatal diagnosis of PUV compared with that of VUR (13 [36.1%] versus 7 [8.05%], p=0.000). Fluctuating activity in the fetal renal pelvis or ureter was observed in15 (17.2%) of 87 children with reflux, versus 1 (2.78%) of 36 newborns with valves (p=0.037).

Conclusions: This study demonstrates that prenatal ultrasound can differentiate with reasonable accuracy male neonates born alive with a postnatal diagnosis of PUV from those with VUR. Dilated posterior urethra, thickened bladder wall and oligoanhydramnios were significantly associated with PUV. The best indicator of VUR was a fluctuating activity in ureters. These results may help in perinatal management and prenatal counselling.

Keywords: Fetal genitourinary tract, Fetal anomalies, Oligohydramnios.

O – 0098 | ORAL | PRENATAL DIAGNOSIS

FIRST TRIMESTER SCREENING: EXPERIENCE OF A SINGLE CENTER ON 105,000 CASES

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Abstract:

Background. In this study we evaluate the detection rate of nuchal translucency to identify fetuses with trisomy 21 in 105,000 cases studied in a single center at the Microcitemico Hospital in Cagliari, Sardinia.

Methods. Retrospective study evaluate the percentile of nuchal translucency values, compared to the crown-rump length in relation to the karyotype of all patients at the Microcitemico Hospital in Cagliari over a 20-year period (1996-2017). Nuchal translucency was considered as increased when greater than 95 ° centile.

Results. 105,000 registered cases were selected from the database. The average maternal age was 32 yrs, (range 14-49). In 6600 (6.2%) fetuses, nuchal translucency was beyond the normal limits. 1170 (17.7%) had an abnormal karyotype, of which 912 (78%) had an increased NT. 461 (39.3%) of the chromosomopathies were trisomy 21. Among the cases with trisomy 21, 75% had an increased NT. The sensitivity of nuchal translucency in identifying cases of trisomy 21 was 83% and the specificity of 95%. The false positives were 5.3%.

Conclusions. More than 50% of all pregnancies in Sardinia receive first trimester screening at the Microcitemico Hospital each year. The detection rate of nuchal translucency in identifying fetuses affected by Down syndrome was 83%, with 5.3% of false positives.

O – 0099 | ORAL | PRENATAL DIAGNOSIS

METABOLOMIC ANALYSIS ON FETAL AMNIOTIC FLUIDS WITH INCREASED NUCHAL TRANSLUCENCY

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Abstract:

Background. The metabolomics quantify and identify low molecular weight metabolites. Our primary objective was to apply the metabolomic pathway analysis of amniotic fluid in order to provide an insight into the pathogenesis of fetuses with increased nuchal translucency (NT) compared to a control group.

Methods. We performed a prospective study on 38 amniotic fluid samples and these were subdivided into 2 groups: group A: 10 fetuses with NT > 95 ° centile and group B: 28 fetuses with NT < 95 ° centile. Ultrasound screening for the evaluation of fetal anatomy was performed on all fetuses. Amniotic fluid samples were analyzed by magnetic resonance spectroscopy (MRS) and multivariate analysis.

Results. 9 out of 10 fetuses in group A and all fetuses in group B presented a normal karyotype. The fetuses affected by chromosomal anomalies were excluded from the study. The fetal anatomy was regular in all fetuses. Magnetic spectrometric analysis showed differences. The Partial least squares Discriminant Analysis (PLS-DA) model shows a good separation between the two classes (R2X = 0.6; R2Y = 0.64; Q2 = 0.54; p <0.0001) important metabolites like lactate, sugars and citrates was increased in group A while pyruvate, valine, glutamate, lysine, alanine and choline was decreased in group A. Subsequently, we found altered metabolic pathways analysis: glycolysis and gluconeogenesis, pentose phosphate cycle and citrate cycle, taurine pathway and ipotaurine, and metabolism of alanine, glutamate and aspartate. Significant differences were found in the fetal group with increased NT between metabolic products which appear to favor anaerobic metabolism compared to the control group.

Conclusions. The etiopathogenesis of NT increased in fetuses with normal karyotype has not been clarified, it seems that the metabolomics pathway analysis represents a promising and useful tool for understanding this phenomenon.

O – 0100 | ORAL | PRETERM LABOR AND FETAL INJURY

THE VALUE OF ARABIN PESSARY, CERVICAL CERCLAGE IN 2ND TRIMESTER IN THE PREVENTION OF PRETERM BIRTH IN ASYMPTOMATIC HIGH RISK PREGNANCIES

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Abstract:

Objectives: Preterm labor is one of the most significant obstetric problems associated with high rate actual and long term perinatal complications. The risk of preterm labor is inaccurate, despite the use of scoring systems, the electronic monitoring of uterine activity, the cervix length measurement with ultrasound and specific biochemical markers like fetal fibronectin and cervicovaginal cytokines.

Methods: We study a series of 166 pregnant women who were checked with transvaginal ultrasound, to assess the cervical length in the first and second trimester. However, only the measurements in the second trimester referred a short cervix. All the pregnancies in our studies were singleton conceived, spontaneous and had high risk factors for preterm birth. We used arabin pessary as cervical cerclage.

Results: Cervical length was the most significant factor for the prediction of the prematurity. The use of arabin cervical pessary compared to cerclage was superior concerning the prolongation of pregnancy.

Conclusions: The detection of cervical changes without clinical symptoms in the early pregnancy period will help the obstetricians to identify the subclinical cervical pathology and to proceed suitable additional interventions. Moreover, it will reduce the high frequency of preterm labor. More multicentric studies are needed to confirm our findings.

O – 0101 | ORAL | PRETERM LABOR AND FETAL INJURY

STIMULATION OF DELIVERY AFTER PREMATURE RUPTURE OF MEMBRANES, A COMPARISON OF DIFFERENT PROSTANGLANDIN E2 ROUTES OF ADMINISTRATION

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Abstract:

Premature rupture of membranes is a complication of pregnancy that significantly increases fetal and neonatal morbidity.

Of all term deliveries, about 10% start with premature rupture of membranes without contractions. Further labour management in such cases can be conservative, or proactive with the stimulation of contractions and cervical ripening. Conservative management is linked to a higher occurance rate of intraamniotic infections and complications due to decrease of amniotic fluid volume, whereas labour stimulation increases the rate of uterine hyperstimulation and consequent fetal distress and chance of operative deliveries. Drugs most often administered for labour stimulation and cervical ripening are prostanglandin E derivates. Intravenous compared to vaginal route of administration has been claimed to have a higher chance of various prostanglandin side effects, such as hyperpyrexia, cramps, nausea and vomiting, diarrhea and troubles in breathing. Thus, the vaginal route of administration is preferred.

The aim of this study was to compare our results in stimulation of contractions and cervical ripening in deliveries with premature rupture of membranes, without contractions and unfavorable Bishop score with the results described in current literature. Our main method of labour stimulation was through a continuous intravenous infusion of prostanglandin E2.

The study included all women with singleton pregnancies of 37 or more weeks of gestation, admitted to Clinic with proven PROM from 2003 to 2006. Patients included had a Bishop score of 5 or less and were without contractions regardless of parity, age, race, ethnicity, fetal presentation and time from membrane rupture. Observed parameters were: time interval from PROM to delivery and from start of prostanglandin stimulation to delivery, administration of antibiotics and analgesia in delivery, occurrence of fever or other prostanglandin complications during labour, way of delivery, neonatal apgar score and pH of umbilical cord blood and infections in early neonatal period.

O – 0102 | ORAL | PERINATAL OUTCOME

EPISIOTOMY AND OASIS IN CROATIA – RESULTS OF THE FIRST NATIONAL SURVEY

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Abstract:

Introduction. Routine episiotomy has currently been abandoned according to the leading guidelines (ACOG), systematic reviews (Cochrane Database), and web databases (UpToDate®). In 1993, Belizán et al. reported that the restrictive episiotomy rate above 30% was not clinically justified. When defining the lower limit for 'safe' episiotomy rate, it is important to take into account the type of episiotomy used and the rate of third- and fourth-degree perineal tears, also known as obstetric anal sphincter injuries (OASIS).

Aims. The aims of the study were to establish the following data at the national level in Croatia in 2012: 1) the types of episiotomy used; 2) the rate and length of using Sultan classification of obstetric perineal tears; 3) total rate of episiotomy and rates of episiotomy according to parity; and 4) total rate of OASIS and rates of OASIS according to parity.

Methods. The aims listed above were assessed by use of a short questionnaire sent by mail to all maternity hospitals in Croatia.

Results. The questionnaire was filled out completely or in part by 23 of 32 (71.9%) Croatian maternityhospitals. Data on the types of episiotomy used were obtained from 15 maternity hospitals, indicating that lateral episiotomy was used in 9 (60.0%) and mediolateral episiotomy in 6 (40.0%) hospitals. Data on Sultan classification of obstetric perineal tears were provided by 16 maternity hospitals, showing that it had not yet been adopted in 5 (31.25%) hospitals, whereas 2 (12.5%), 4 (25.0%) and 5 (31.25%) hospitals had been employing it for <5, 5-10 and >10 years, respectively. Data on the total rate of episiotomy (39.1%) and rates of episiotomy according to parity were received from 23 maternity hospitals, yielding the following results: 62.3% in primiparae, 26.9% in secundiparae, and 9.0% in ≥tertiparae. Data on the total rate of OASIS (0.37%) and rates of OASIS according to parity were provided by 21 maternity hospitals, showing the following results: 0.35% in primiparae, 0.45% in secundiparae, and 0.27% in ≥tertiparae.

Conclusion. Results of the first national study of episiotomy and OASIS are presented. In 2012, lateral episiotomy was predominantly used in Croatia. Quite disturbing was the fact that Sultan classification of obstetric perineal tears had not yet been introduced in 5 of 23 respondent maternity hospitals. Total rate of episiotomy suggested a routine approach and the need for clinical practice modification in the majority of Croatian maternity hospitals. Total rate of OASIS was low, which could be explained in two different ways, i.e. by episiotomy lateralization, or by inappropriate diagnosis of OASIS. A major problem was the highest rate of OASIS in secundiparae, which is clinically unacceptable.

O – 0103 | ORAL | NEONATAL HEALTH

MORBIDITY OF NEWBORNS FROM PROM AND PPROM

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Abstract:

Introduction: Premature rupture of the membranes (PROM) is defined as rupture of membranes before the start of deliveries after 37 weeks of gestation and is independent of gestational age. It occurs in about 8 to 10% of cases in term pregnancy. Rupture velamentorum praematura (PPROM) represents premature preterm rupture of membranes which occurs before 37. week of gestation, makes ¼- ⅓ of all premature births and it increases morbidity and mortality among newborns and women.

Aim of work: Evalution of the structure of morbidity for newborns from pregnancies with preterm premature rupture of the membranes (PPROM) and premature rupture of membranes (PROM).

Materials and Methods: A prospective cohort study of 46 pregnant women-22 with PROM and 24 with PPROM and their newborns hospitalized at Ginecological Obstetics Department of General Hospital Berane from January 2011 to January2012. Main research measure was a protocol for pregnant women and a protocol for newborn. At reception, all the patients were laboratory tested (complete blood count, C-reactive protein), vaginal and cervical swabs, ultrasound, cardiotocography. For data evaluation were used descriptive statistics and Spearman's correlation test

Results: There is equal gender distribution. The average body weight in group of newborns with PROM was 3449,5 ± 595,7 gr, body length was 52,8 ±4,2 cm. Among newborns with PPROM average body weight was 2368 ± 684,3 gr and body height 48.3±4.3cm. In group with PROM 11 (50%) newborns had different forms of diseases: asphyxia in 3 (13,6%), varicella in 1 (4,5%), conjuctivitis in 2 (9%), pneumonia in 1 (4,5%), urinary infections in 1 (4,5%) and congenital anomalies in 2 (9%). Among newborns with PPROM the morbidity was 18 (75%): respiratory distress syndrome 8(33,3 %), intraventricular haemorrhage 2 (8,4%), asphyxia 4 (16,7%), sepsa 1 (4,2%), necrotic enterocolitis 1 (4,2%), intrauterine growth restriction 1 (4,2%), congenital anomalies 1(4,2%) and perinatal mortality 2,2%.

Conclusion: Newborns from PPROM pregnancy had significant morbidity including death. In this group of newborns the incidence of diseases that are associated with prematurity was increased. The use of broad-spectrum antibiotics among pregnant women with PPROM could prolong pregnancy enough to decrease morbidity that is associated with gestation age.

Keywords: PROM, PPROM, pregnancy, newborn, morbidity

O – 0104 | ORAL | PREVENTION OF PRETERM DELIVERY

SYMMETRY-ASYMMETRY OF UTERINE ACTIVITY AND UTERO-PLACENTARY HEMODYNAMICS USING NORMOBARIC OXYGENOTHERAPY IN PREGNANCY WITH THREATENING PRETERM BIRTH

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Abstract:

The aim of the study was to reveal the nature of the contractile activity of the right and left sides of uterus in women in the II - III trimesters of pregnancy and the development of an additional non-drug treatment for threatening preterm labor.

Methods: A total of 115 pregnant women aged 21 to 28 years were examined at the gestational age of 26-36 weeks: 55 women with the threatening preterm labor who underwent normobaric oxygen therapy (giving an air mixture containing 60% oxygen through the mask for 30 minutes 7 times (device "Mitar-01-R-D", Russia) together with standard therapy (Hexoprenalin 20 mcg intravenous) (group I), 60 women with threatening preterm birth received only standard therapy (Hexoprenalin 20 mcg intravenous) (group II). The contractile activity of the uterus and the cardiorespiratory system of the fetus were studied with the help of cardiotocography (device Sonomed-200, Russia), blood flow velocity parameters were studied with dopplerometry of the uterine, umbilical and middle cerebral arteries of the fetus (ultrasonic device Voluson E8 Expert (Germany) with color Doppler mapping, the frequency of the sensor is 3.5 MHz).

Results: Symmetric (genitalized) contractile activity of the right and left parts of the uterus was recorded in women with threatening preterm labor. Even after the third session of normobaric oxygen therapy, asymmetry of uterine activity was detected, with predominance of contractile activity of the right uterine parts, increased blood flow in the right uterine artery, and the disappearance of pathological patterns on the fetal cardiotachogram. Cardiorespiratory reactions of the fetus significantly correlated with the contractile activity of the right uterine part.

Conclusion: Thus, under the conditions of normobaric oxygen therapy, a stereofunctional reorganization of processes in the utero-placental-fetal complex is noted that contributes to the emergence of functional asymmetry in myometrium.

O – 0105 | ORAL | PREVENTION OF PRETERM DELIVERY

GESTATIONAL AGE AND ANTROPOMETRIC CHARACTERISTICS OF INFANTS GIVEN BIRTH BY ADOLESCENT MOTHERS

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Abstract:

Objective: Effects of biological risk factors on gestational age and anthropometric characteristics of infants given birth by adolescent mothers.

Methods: A retrospective study included 181 infants given birth by adolescents at the Maternity department of General Hospital in Pozarevac in the period from January 2011 to December 2013. Adolescent mothers were divided into two age groups, the first one aged 14 to 16 (40 adolescents) and the second aged 17 to 19 (141 adolescents). The control group consisted of 732 infants given birth by mothers from the age group 20 to 30 years of age. The study included first-born mothers who gave birth to only one child. Also, the data obtained by inspecting the history of previous illnesses were analyzed. Outcomes of interest in this study were PTM of the infants, gestational age and growth index. The influence of biological risk factors on neonatal outcomes taken into consideration: PTM, gestational age and Infant Growth Index.

Results: PTM, body length and gestational age of infants of adolescent mothers and the control group statistically significantly differ. For a single year increase in mother's age, the risk of low weight at birth decreases 88% (OR 0.880; 95% CI 0.822-0.942). For every year the menarche occurs later, the risk of a child with low body weight increases twice (OR 2.184; 95% CI 1.505-3.167), while the risk for lower gestational age increases 1.5 times (OR 1.549; 95% CI 1.052-2.282). For each year that passes from menarche to childbirth the risk of a child with low body weight decreases 86% (OR 0.863; 95% CI 0.807-0.923). For every gestational week, the risk of a child with low body weight reduces 34% (OR 0.338; 95% CI 0.270-0.423).

Conclusion: The anthropometric characteristics and gestational age of infant of adolescent mothers are statistically significantly lower than the same characteristics of infants of mothers from the group 20 to 30 years of age. Indicators of low body weight at birth are the age of mothers, the time of menarche and the period between menarche and delivery. The study shows that an indicator of lower gestational age of the infant is the time menarche occurs. Pregnancy and birth in adolescence as a significant health and psychosocial problem requires a multidisciplinary approach and health surveillance in order to achieve a better neonatal outcome.

Key words: adolescence, pregnancy, neonatal outcomes, risk factors.

O – 0106 | ORAL | PREVENTION OF PRETERM DELIVERY

SOCIOECONOMIC AND PSYCHOLOGICAL RISK FACTORS IN THREATENED PRETERM DELIVERY

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Abstract:

Objectives. Individual psychological status of every pregnant woman is another important risk factor in threatened preterm delivery. Aims of the study were: to determine how socioeconomic factors influence psychological status in threatened preterm delivery; to determine the influence of depression, anxiety and stress on pregnancy outcome and condition of the newborn after preterm delivery.

Methods. Sample consisted of forty-one pregnant women with the diagnosis of threatened preterm delivery hospitalized in Gynecology and obstetrics clinic “Narodni front” in Belgrade. Controls were forty pregnant women in their third trimester with no signs of preterm delivery. After giving the informed consent, patients filled three questionnaires: the interview about socioeconomic status, the DASS (Depression, Anxiety and Stress Scale) and EPDS (Edinburgh Postnatal Depression Scale). Special attention was given to: gestational week at delivery and condition of the newborn (body weight and the need for admission to neonatal intensive care unit).

Results. Higher scores on DASS and EPDS questionnaires predicted a delivery in earlier gestational weeks. Babies with lower body weight were delivered by mothers with high anxiety scores during pregnancy. Pregnant women with high depression and stress scores more often delivered babies who were admitted to intensive care unit.

Conclusions. Symptoms of depression, anxiety and stress in the third trimester cause preterm delivery. Newborns from these high risk pregnancies have lower body weight and higher need of admission to neonatal intensive care unit.

Key words: threatened preterm delivery, preterm labor, Edinburgh Postnatal Depression Scale, Depression, Anxiety and Stress Scale.

O – 0107 | ORAL | PREVENTION OF PRETERM DELIVERY

DETECTION GLUTATION-S-TRANSFERASES MATERNAL-FETAL GENOTYPES INTERACTION IN PRETERM LABOR CASE

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Abstract:

Objectives: The maternal-fetal genotypes (MFG) interaction influences on intrauterine development, phenotype formation of the offspring and their diseases risk in the postnatal period. *GSTT1, GSTM1, GSTP1* genes of glutation-S-transferases (*GSTs*) family were analyzed only in the case of neonanal pathologies and premature birth risk in neonates or pregnant. *GSTs* genes expressions affect the antioxidant defense and metabolism of various toxins in many pathways. The presence of *GSTT1*(deletion), *GSTM1*(deletion), *GSTP1*(313A/G or 313G/G) variants and their combinations reduces the antioxidant defense at any ontogenesis stage since intrauterine development, but their interaction has not been studied for preterm labour. The aim of the study was to determine the influence of MFG interaction on the risk of preterm labor.

Methods: Inclusion criteria study were preterm labor at 24-32 weeks in pregnant without extragenital diseases and uncomplicated pregnancy course. Exclusion criteria were the presence of malformations and neonatal pathologies in offspring. Mother-neonate pairs were divided into groups depending of gestational age: group 1– 24-27 weeks (13 cases); and group 2 – 28-32 weeks (10 cases). *GSTT1*(deletion/allele), *GSTM1*(deletion/allele), *GSTP1*(313A/G) polymorphic variants tested using multiplex PCR and PCR-RFLP methods. Statistical analysis of genotypes frequencies (xi-square test) and MFG interaction (MDR program version 3.0.2) between comparative groups was done.

Results: The frequencies of investigated genotypes did not differ between groups among mothers and neonates and population spreads. Only 2 reliable predictive models were identified using MDR method of MFG interaction in preterm labor risk. A model with better prognostic value demonstrated that the fetal genotype of all investigated genes had significant effect on preterm labor at 24-27 weeks (Figure 1). MFG genotypes combinations in pairs showed increased frequencies of *GSTT1*(deletion), *GSTM1*(deletion), *GSTP1*(313A/G or 313G/G) variants among the pairs of group 1compared to group 2 (77% and 53%, respectively).

Figure1. Significant model of MFG interaction in prediction of preterm labor risk

Conclusion: Further studies are needed to confirm these results. It is possible to predict preterm labor based on information about parents' genotypes and the possible results of non-invasive diagnostics. The use of nutrients with antioxidant protection in pregnant women will help reduce preterm labor.

Key words: preterm labor, genotypes, interaction

O – 0108 | ORAL | PREVENTION OF PRETERM DELIVERY

EFFICACY OF THE CERVICAL PESSARY COMBINED WITH VAGINAL PROGESTERONE FOR THE PREVENTION OF SPONTANEOUS PRETERM BIRTH

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Abstract:

Introduction: Aim of this study was to evaluate the safety and efficacy of the combined treatment of cervical pessary and endovaginal progesterone for the prevention of spontaneous preterm birth (SPB) in women with a short cervical length between 20 to 24 weeks of gestation.

Materials and Methods: Prospective study of women with a singleton pregnancy and a sonographically detected mid-trimester cervical length ≤25mm. The primary outcome measure was spontaneous delivery before 34 weeks (238 days) of gestation.

Results: The study sample consisted of 90 women with a mean cervical length of 14.2 mm (SD=6.5 mm). 34.4% of the women had at least one risk factor for SPB. 7.8% of the women delivered preterm before 34 weeks of gestation, and 25.6% before 37 weeks. Neonatal death occurred in 2.2% of the cases. Women with lower body mass index (BMI) values, history of preterm delivery and the number of 2nd trimester miscarriages were independently associated with delivery before 34 weeks.

Conclusion: Combination of vaginal progesterone and cervical pessary for the prevention of SPB in women with a short cervix is safe and well tolerated. This therapy was associated with a pregnancy prolongation, reduced prematurity rate and a low rate of perinatal complications.

O – 0110 | ORAL | PREVENTION OF PRETERM DELIVERY

SOCIOECONOMIC AND PSYCHOLOGICAL RISK FACTORS IN THREATENED PRETERM DELIVERY

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Abstract:

Objectives. Individual psychological status of every pregnant woman is another important risk factor in threatened preterm delivery. Aims of the study were: to determine how socioeconomic factors influence psychological status in threatened preterm delivery; to determine the influence of depression, anxiety and stress on pregnancy outcome and condition of the newborn after preterm delivery.

Methods. Sample consisted of forty-one pregnant women with the diagnosis of threatened preterm delivery hospitalized in Gynecology and obstetrics clinic “Narodni front” in Belgrade. Controls were forty pregnant women in their third trimester with no signs of preterm delivery. After giving the informed consent, patients filled three questionnaires: the interview about socioeconomic status, the DASS (Depression, Anxiety and Stress Scale) and EPDS (Edinburgh Postnatal Depression Scale). Special attention was given to: gestational week at delivery and condition of the newborn (body weight and the need for admission to neonatal intensive care unit).

Results. Higher scores on DASS and EPDS questionnaires predicted a delivery in earlier gestational weeks. Babies with lower body weight were delivered by mothers with high anxiety scores during pregnancy. Pregnant women with high depression and stress scores more often delivered babies who were admitted to intensive care unit.

Conclusions. Symptoms of depression, anxiety and stress in the third trimester cause preterm delivery. Newborns from these high risk pregnancies have lower body weight and higher need of admission to neonatal intensive care unit.

Key words: threatened preterm delivery, preterm labor, Edinburgh Postnatal Depression Scale, Depression, Anxiety and Stress Scale.

O – 0111 | ORAL | PREVENTION OF PRETERM DELIVERY

OUTCOME OF PREGNANCIES AFTER SURGERY FOR CERVICAL DYSPLASIA AND MICRO INVASIVE CERVICAL CANCER

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Abstract:
Cervical dysplasia and malignancy are common in women of reproductive age. In Australia 1% of all Pap smears are reported as HSIL (high squamous intraepithelial lesion) but rate has reduced for 30% in the last ten years, since 2007 when quadrivalent Gardasil vaccine was introduced (Farnsworth, 2017). Incidence of adenocarcinoma and adenocarcinoma in situ(AIS) has increased 29% in that time (Nayar at all2017). Surgery on the cervix increases risk of preterm labour, preterm premature rupture of membranes (PPROM) and cervical stenosis. In our retrospective study we included 110 nulliparous women who had antenatal care and delivery provided by our practice between 1 January 2004 and 30 June 2017 and had surgery for cervical dysplasia or micro invasive cervical carcinoma. 102 women had large loop excision of transformation zone (LLETZ) for HSIL, 8 of them had 2 or more LLETZ procedures for residual disease.1 had 5 laser treatments for HSIL and LSIL. 5 women had cone biopsy for AIS and 2 cone biopsies for micro invasive cervical cancer, one of them had LLETZ for presumed HSIL, but after histology confirmed microinvasive cancer she underwent cone biopsy as well. 10 women were seen for pre-conceptual counselling, and all others in between 8-9 weeks of gestation for booking pregnancy visit, when transvaginal scan (TVS) was performed to assess cervical length. TVS was performed again at 12 weeks at routine nuchal translucency scan. 5 women were found to have cervical length of less than 25 mm and had cervical suture. If cervical length was 25-30 mm (20 patients) or if woman had a cone biopsy Progesterone 200 mg pessaries (Oripro) PV nocte was prescribed. Cervical length was assessed at 16 then at 19 weeks morphology scans. Further 5 women were found to have funnelling and cervical length of less than 25 mm and had cervical suture. Cervical length surveillance continued in a Progesterone and cervical suture group fortnightly and for other women monthly till 28 weeks, then fortnightly till 34 weeks of gestation.

Results: There was no stillbirths or miscarriages recorded. 1 woman who had cone biopsy for AIS and was on Progesterone went into labour at 26/40 (FFN rapid highly positive), was given steroids, MgSO4, given tocolysis with Nifedipine, transferred to level 3 Hospital but delivered by spontaneous vaginal delivery (SVD) LMI, 930 g ,4 days later. 8 women had PPROM and delivered between 34-37 weeks, 5 delivered vaginally, 3 by Caesarean section as cervix was stenosed and never dilated more than 1cm. 1 woman who had multiple laser treatments on cervix was induced at 41 weeks for postdates, but had cervical stenosis, never laboured and was delivered by Caesarean section. Remaining 101 women had full term pregnancies between 37 and 40+10/40. 2 had elective Caesarean section for breech presentation and 1 for placenta praevia. 35 were induced for obstetric indications (preeclampsia, gestational diabetes, postdates). Total of 30% delivered by Caesarean section. All babies were born in good condition, 5 delivered between 34-36 weeks required admission (less than one week) to level 2 nursery. Incidence of preterm birth was 8.1%comparing with Australian average of 8.3% in 2013(www.aihw.gov.au 2013).

Conclusion: Careful monitoring and management of women with a previous cervical surgery yield good pregnancy outcome.

Keywords: Cervical surgery Progesterone Cervical Suture. Preterm Labour

O – 0112 | ORAL | PUBLIC HEALTH

ACTORS ASSOCIATED TO PERINATAL MORTALITY: A CASE CONTROL STUDY

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Abstract:

Objective: To evaluate the factors associated to perinatal mortality.

Methods: A case-control study, in the period from 01/01/11 to 12/31/15 in a public maternity hospital in the South of Brazil. The group of cases includeds all deaths recorded from the 22nd week of gestation until the 6th full day of life of the newborn. The control group includes live births randomly collected, with a number equal to twice the total number of deaths, in the same period.

The factors evaluated were maternal characteristics (age, ethnicity and schooling) and the characteristics of gestation (gestation type, gestational age, and type of delivery). Logistic regression models were used to calculate odds ratios to examine perinatal mortality, with a 95% confidence interval and significant values when $p < 0.05$.

Results: A total of 334 cases and 668 controls were selected. An increased risk of perinatal death was found in maternal age> 35 years, with odds ratio of 2.64 (95% CI: 1.05-6.62; p = 0.03); in mothers with schooling < 8 years of study with odds ratio of 2,12 (95% CI: 1.08 - 4.13, p = 0.03), and in those with multiple gestation in which the odds ratio was 7.41 (95% CI 1.37 40.03, p = 0.02). In the other items evaluated, no relation was observed with the increased risk of perinatal death.

Conclusion: The factors associated with the an increased risk of perinatal mortality are maternal age greater than 35 years, schooling less than 8 years of study and multiple gestation.

Key words: perinatal mortality, case control study.

O – 0113 | ORAL | PUBLIC HEALTH

NEONATAL RESUSCITATION PROGRAM IN BOSNIA AND HERZEGOVINA: OUR EXPERIENCE DURING 10 YEARS

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Abstract:

Objective: Neonatal resuscitation requires responsibility, knowledge and skills to save newborn lives. Continuous systemic trainings according guidelines which are the result of international consensus is needed to improve care of newly born infants. Aim: to evaluate the impact of implementation of Neonatal Resuscitation Program (NRP) within the last decade in Bosnia and Herzegovina

Material and methods: NRP which includes hands-on practice using mannequins, with permission for the use of AAP translated material for foreign countries has been organized in Bosnia and Herzegovina during last 10 years. The initial training was done together with USA professionals, but very soon we were able to do ourselves and institutionalize it throughout B&H. Eleven courses have completed up to now, using 5th, 6th and currently latest 7th NRP textbook edition.

Results: 550 professionals have been trained up to now by licensed NRP providers throughout B&H. The proportion of perinatal asphyxia in total neonatal mortality rate, according to the Agency of statistics FBH, 2010 was 16.3% and it has dramatically fallen to 6.5% in 2015. Neonatal mortality rate has declined over last 10 years, from 5.2/1000 to 3.8/1000. Candidates attending NRP courses have showed significantly better results on preliminary and final tests as a result of widespread education.

Conclusion: NRP trainings with educational design consistent with adult learning principles according to AAP provided knowledge and resuscitation skills to newborn care givers in B&H. Widespread trainings showed noticeable impact on newborn care in B&H.

O – 0114 | ORAL | PLACENTA PROBLEMS

UTERINE ARTERY IMPEDANCE CHANGES AFTER VERTEBRAL MANIPULATION TECHNIQUES ON THE LUMBOSACRAL JUNCTION: A RANDOMIZED CONTROLLED PILOT TRIAL IN NON-PREGNANT WOMEN

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Abstract:

Background. Preeclampsia has been associated with maternal haemodynamic dysfunction and hypolumbarlordosis. These conditions are matched with lumbar spine stiffness, which can be treated with vertebral manipulations. It has been shown that vertebral manipulations have an effect on the autonomous nervous system and on vasomotor arterial tone. The vertebral segment most prone to complications is the lumbosacral tract, which is the level of the pelvic vasomotor centre in the osteopathic literature. It is well known that preeclampsia is accompanied by an impaired uterine arterial impedance.

Objective. The purpose of this randomized pilot study is to verify in healthy non-pregnant Volunteers the effectiveness on uterine haemo-dynamics of two different types of vertebral manipulations directed on the lumbosacral area.

Methods. Consecutive patients aged 22-44 years, with ovulation and regular menstrual periods, without any pelvic disorder, any oral contraception, any hormonal or metabolic-related pathologies, were recruited. They were randomly inserted into four groups. Group A: L5-S1 inhibition technique (patient lying prone; technique: bilateral steady and firm pressure in the space between the transverse process of the fifth lumbar vertebra and the sacrum, for 90 seconds). Group B: Bilateral stimulation of the sacral base (patient lying prone; the sacral base is pushed anteriorly while the ilium laterally by high-velocity-low-amplitude manual technique, for 60 times, 1 time/sec.). Group C: sham (perception of the space opening at the L5-S1 level, on the rhythm of the diaphragmatic respiration, for 90-120 seconds). Group D: no treatment (trans-abdominal pelvic ultrasound exam, for 90 seconds). The study was performed during the peri-ovulatory days of each woman: the uterine flow is relatively stable, for any age and parity. Colour and pulsed doppler imaging was done before and after the technique, within a maximum of 15 minutes. Assessments were performed using a trans-vaginal transducer by a single experienced operator in ultrasound, to avoid inter-observer variability. According to the usual technique, three similar consecutive waveforms of the uterine artery flow, detected at the level of the internal cervical os, were obtained: the average of the maximum velocity (Vmax) and of the pulsatility index (PI) were calculated automatically by the sonographic device. Statistical analysis for verifying the normal distribution of the data; variance analysis to evaluate the percentage difference between Vmax and PI; paired t-test to calculate the effect of the techniques. Statistical significance returned from a $p<0.05$.

Results. A total 158 uterine arteries were analysed: 40 in the group A; 38 in the group B (2 dropped out for poor doppler waveform quality); 40 in the group C and 40 in the group D. The analysis within the groups showed a significant variation in peripheral resistance (PI) decreasing in group A (from 2,42±0,9 to 1,98±0,6; p = 0,0006) and increasing in group B (from 2,17±0,6 to 2,5±0,7; p <0.0001). No difference for groups C (2,13±0,61 – 2,12±0,6) and D (1,9±0,46 – 1,9±0,48). No significance for the absolute Vmax value; while the percentage change of Vmax between the first and the second detection was significantly higher (121,9%) for group B over all groups (respectively: group A = 98,02%, group C = 103,8% ; Group D = 98,7%).

Conclusion. The measurement of the uterine artery flow is a key tool in clinical diagnosis and prognosis for placental dysfunctions. Spine manipulations had been demonstrated to have a cardio-vascular effect at cervical and thoracic level. This first pilot study shows statistically significant effects in the pelvic area of different spine manipulation techniques. Effects on the peripheral impedance of the uterine arteries are: decreasing the PI by the inhibition technique and increasing the vascular resistance with the stimulation technique. Appropriate techniques could be useful to prevent pathological obstetrics condition and to treat abnormal menstrual bleeding, but it demands further research to detect long-term effects of the techniques and their effectiveness in disease conditions.

Keywords: uterine artery doppler, osteopathy, vertebral techniques, autonomous nervous system.

O – 0115 | ORAL | NEONATAL HEALTH

ASSOCIATION OF CORD BLOOD BISPHENOL A WITH ANTHROPOMETRIC AND SKIN THINKNESS OF NEWBORNS, CORD BLOOD ADIPONECTIN AND LEPTIN LEVELS: BIRTH COHORT

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Abstract:

Introduction: Being first produced as synthetic estrogen, Bisphenol A (BPA) was later widely used in the plastic and resin production industry due to its cross-linking capabilities. It is well known as causing obesity in adults, however prenatal effects of BPA on newborns is contraversial, most researches reported that it may cause lower weight and lenght. Especially endocrin effects of leptin and adiponectin on obesity are well known in adults. However, association between BPA, adiponectin and leptin and anthropometric measures of newborn is unknown. The aim of this study was to evaluate the relation between cord blood BPA, leptin, adiponectin, birth weight, height, skin thickness and postnatal results.

Method This study was performed in Near East University Medical Faculty, Nicosia Cyprus with 150 healty newborns. Cord blood leptin, adiponectin, BPA levels were measured by ELISA. In addition birth weight, heights and back, waist and arm skin thickness were measured and postnatal problems noted. Results: Mean±SD of BPA, Adiponectin, leptin levels were 48,3 ± 22,23 ng/ml, 65,59 ±152,93 mcg/ml and 3,08±2,081 ng/ml. Mean birth weight, height, head circinferences were 3156,76±493,45gr, 48,28±2,04 cm, 34,14±1,74 cm. The assocoation antropometric measurements, BPA, leptin and adiponectin levels were not statistically significant (p:>0,05). Relation between cord blood leptin, adiponectin and BPA levels and Small for gestation, large for gestation and avarage for gestation groups were not significant (p:>0,05). Morover, relation between back, waist and arm skin thickness and BPA, leptin and adiponectin were not statistically significant (p:>0,05). However, newborns who were hospitalised and had newborn jaundice had higher BPA levels (p:<0,05).

Discussion In previous studies, higher BPA levels were associated with SGA birth, however this relation was not noted in our study. Furthermore, there are no relation between skin thickness, BPA, leptin and adiponectin. This difference may be as aresult of higher cord BPA levels compared with previous studies.

O – 0116 | ORAL | PUBLIC HEALTH

ADOLESCENT PREGNANCIES, BIRTHS AND ABORTIONS IN HUNGARY

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Abstract:

Objectives: Teenage pregnancies are more likely to have maternal, fetal and neonatal complications. The aim of our study was to examine the outcome of adolescent pregnancies at local and country level in Hungary between 2010 and 2014.

Methods: The retrospective analysis was based on the Hungarian Central Statistical Office, and our database from the Department of Obstetrics and Gynaecology (DOG), University of Szeged. Pregnancies of mothers aged 19 and under were involved, the followings were evaluated: number of pregnancies, births and abortions, rate of prematurity, frequency of congenital malformations. The local data were compared with the data of all mothers who delivered in Hungary in the same period, it was considered as the control group.

Results: During this 5-year period in Hungary 448,852 births (6.2% of mothers were aged 19 years or younger) and at the DOG 12845 births were recorded, out of them 274 (2.1%) were adolescent. The number of abortions was 182,564 in the country, 12.7% (23,251) were registered among young girls, at the DOG 3502 abortions were recorded, 13.1% (458) were aged 19 years or younger. In the adolescent group the frequency of caesarean section was 33.5% and of the premature deliveries was 10.2%, neither was significantly different from the control group The mean birth weight was significantly lower in the adolescent group than in the general Hungarian population (3110.2±564 grams vs. 3247 grams). The rate of congenital malformations (8% vs. 5%) and the need for intensive care (12.4% vs. 8%) were significantly higher in the teenage group.

Conclusions: Young maternal age is associated with higher risk of adverse obstetrical and neonatal outcome. Prevention of adolescent pregnancy has to be part of sexual health education among young population in elementary schools.

Keywords: adolescent pregnancy

O – 0118 | ORAL | PUBLIC HEALTH

SEXUALITY IN PREGNANCY

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Abstract:

Background: Pregnancy is a period of anatomical and physiological changes that might influence the occurrence or deterioration of female sexual dysfunction. The aim of our study is to determine changes in the sexual practice in pregnancy, the prevalence of sexual dysfunction and the impact of specified factors.

Methods: A quantitative descriptive cross-sectional observational study has been used. Data were collected through written questionnaires during the routine prenatal visit between 14. 04. and 30. 05. 2017. A purposive sample included 172 healthy and sexually active pregnant women. Demographic data, sexual practices and sexual function during pregnancy using FSFI (Female Sexual Function Index) questionnaire were collected. Data were analysed using statistical package SPSS. We calculated the mean scores, standard deviation, frequency and percentages. Statistically significant differences were identified with one-way analysis of variance (ANOVA), t-test for independent samples, chi-square test and the Pearson's coefficient of correlation. Statistical significance was set at the $p< 0.05$.

Results: Mean age of participants was 29.5 ±4.1 years. Demographic variables of the women and their partners, employment and duration of their relationship did not affect the sexual function. We found a high rate of sexual dysfunction in pregnancy, with a prevalence of 74.4%, the highest in the 3rd trimester (82.8%). Mean FSFI score was 21.41 ± 6.99. Sexual dysfunctions in pregnancy have a statistically significant higher incidence as before pregnancy ($p=0.032$).

Conclusions: The female sexual function in pregnancy is an important aspect of life and we should discuss it with our patients and their partners. In our study, the participants stated they would like to gain more information about sexuality from their gynaecologists**.**

Key words: pregnancy; sexuality; sexual dysfunction; female sexual function index

O – 0119 | ORAL | PUBLIC HEALTH

OXIDATIVE STRESS IN PATIENTS WITH SPONTANEOUS ABORTIONS: ANTIOXIDATIVE ENZYMES ACTIVITY AND LIPID PEROXIDATION PRODUCTS

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Abstract:

Aims: The goal of this research was to determine the intensity of pro-oxidative processes (LPx), antioxidative enzymes (SOD, CAT, GSH-Px) and TAS in patients with spontaneous abortions.

Material and methods: A total of 85 patients in the first trimester of pregnancy, were involved in the research. The patients were divided into two groups: 35 patients with missed abortion (group M) and a control group of 50 healthy pregnancies (group N). The intensity of lipid peroxidation (LPx) was determined with a modified thyobarbituric acid method. Antioxidative parameters were measured with: SOD method with xanthine oxidase-using commercial RANSOD sets, CAT method by Aebi, the enzyme activity was measured by monitoring the decomposition of H2O2 at 240 nm and the activity of GSH-Px was determined using hydrogen peroxide as a substrate. The total antioxidative status (TAS) was determined using the FRAP method.

Results: The average value of LPx in group M was 44,57 pmol/mg Hgb and in group N was 26,06 pmol/mg Hgb ($p<0,001$). Alsow, there is a statistically highly significant difference ($p<0,001$) in CAT, SOD and TAS content between patients with missed abortion and the control group: (CAT; M-21,46 and N 30,94 nmol/mg Hgb); (SOD; M-1211,66 and N-1116,36 IU/g Hgb); (TAS; M-277,66 and N-452,12 μmol/L). By ANOVA testing, there is a statistically significant difference ($p<0,05$) in SOD and GSH-Px between patients of exemined group (GSH-Px; M-1091,57 and N-1291,38 nmol/mg Hgb). A statistically significant ($p<0,05$, $r=0,37$) positive correlation between LPx and CAT in the group of patients with missed abortion was also noted.

Conclusion: Determination of the value of pro-oxidative, antioxidative parameters in patients with spontaneous abortion can indicated the condition of fetoplacental unit and investigated level changes may be useful indicators for miscarriage prevention.

Keywords: Oxidative stress, pregnancy, spontaneous abortions

O – 0120 | ORAL | NEONATAL HEALTH

NEONATAL ACUTE KIDNEY INJURY IN INTENSIVE CARE UNIT

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Abstract:

Objective: Acute kidney injury (AKI) is serious clinical problem in newborns in the neonatal intensive care unit (NICU). Predisposing factors for AKI in neonatal age are: certain clinical conditions (asphyxia, prematurity, sepsis, and meconium plug syndrome), therapeutic interventions and other nephrotoxic drugs.The aim of the study were to present the epidemiological and clinical characteristics of neonatal acute kidney injury in intensive care unit.

Subjects and Methods: The study was designed as a prospective, clinical, epidemiological investigation conducted in the period of 3 years, which included 100 newborns hospitalized in NICU of University Children's Hospital. (50 with AKI and 50 without AKI). Medical data records of admitted neonates with AKI were analyzed. The material was statistically processed using methods of descriptive statistics.

Results: The estimated prevalence of AKI in neonates was 6.4%, according to the standard definition, while the prevalence of neonatal AKI according to RIFLE classification was 8.7%. According to pathogenetic mechanisms that lead to kidney injury, prerenal AKI prevailed and it was registered in 78% of male newborns with neoliguric type of AKI. Perinatal asphyxia was a common predisposing factor associated to neonatal kidney injury and it was found in 30% of the examined newborns, being predominant in male infants and born with a low Apgar score in the fifth minute of their life. There was a significant association between the occurrence of AKI and mechanical ventilation and aminoglycoside therapy. The mortality rate was 32% and was significantly higher in the group of newborns with congenital heart diseases.

Conclusion: Acute kidney injury is a life threatening condition. It is an independent contributor to mortality. Early diagnosis and appropriate treatment of acute kidney injury in critically ill newborns, improves the outcome and prognosis.

Key words: acute kidney injury, newborns, predisposing factors

O – 0122 | ORAL | PUBLIC HEALTH

PERINATAL OUTCOMES AMONG REFUGEE PREGNANT WOMEN IN OUR TERTIARY CENTER

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Abstract:

Objectives: Refugee pregnant women (RPW) are a vulnerable population and during pregnancy may be exposed to poor nutrition, and limited access to health care. The aim of this study was to determine the risk of adverse perinatal outcomes among RPW.

Methods: Retrospective analysis of perinatal outcomes of RPW delivering in our tertiary center, between 3rd/2016-7th/2017. Data collected include: mode of delivery, gestational age (GA), gender, birth weight (BW), admission to the neonatal intensive care unit (NICU) and mortality.

Results: During study period, 2075 deliveries took place in our hospital, 116 (5.6%) of which were from RPW (one was twin). Out of 116 RPW, 25 (21.5%) given premature birth. Forty-two (36.2%) labors were carried out by cesarean section (CS). The causes for CS were: 23 previous CS, eight non-reassuring fetal status, six failure to progress in labor, two preeclampsia, one hypertension of pregnancy, one placental abruption and one extreme prematurity. A total of 117 infants were studied [59 (50.4%) males], the GA was 38.1±2.4weeks (6 RPW had unknown GA) and BW was 3007±620g. Twenty-seven (23%) neonates required admission to the NICU. The causes of admission to the NICU were: neonatal jaundice (40.7%), infections (18.6%), respiratory morbidity (22.2%) and other 18.6%. The mortality rate was 8.5‰ (one death due to major congenital anomalies).

Conclusions: RPW constitute a high-risk population with increased rate of preterm birth. Infants born from RPW had increased risk for admission to the NICU. Further larger multicenter studies may provide more convincing data about outcomes in the RPW.

O – 0123 | ORAL | NEONATAL HEALTH

THYROID STATUS MONITORING DURING THE FIRST YEAR OF LIFE IN INFANTS WITH INCREASED TSH VALUE ON NEWBORN SCREENING

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Abstract:

Objectives. The essential role of thyroid hormones for normal brain development during a critical period of life is well established. Neonatal screening programs for congenital hypothyroidism (CH) enable early detection of patients and attainment of euthyroid status as quickly as possible. Adequate and accurate monitoring of thyroid function is necessary. In the study we aimed to determine the periodicity of thyroid function testing in the first year of life (3-month intervals versus monthly intervals monitoring).

Methods. Retrospectively were analyzed data of 51 children with CH detected on neonatal screening in the period 2011 to 2015. Needs for patients monthly thyroid monitoring were defined according to the recommendations: a dose change within a month of a previous control, values of T4/FT4 not in the upper half of the reference range, and high or very low TSH value.

Results. Monthly thyroid testing was indicated in 36% of CH patients during the first year of life. Children who needed more frequent monitoring intervals had a higher initial value of TSH ($p = 0.032$) and a lower value of T4 ($p = 0.038$) than those requiring less frequent monitoring. The sex, birth weight, age of treatment onset, initial L-thyroxine dose, and L-thyroxine dose at 1-year of age in our study were not predictive factors for more frequent thyroid monitoring. The baseline value of TSH > 40 mIU/L and T4 < 4.4 μg/dL were significant predictive factors for monthly thyroid monitoring in the first year of life; OR 2.8 and 2.5, respectively (Table 1).

Conclusions. Children with severe hypothyroidism at birth are potential candidates for more frequent thyroid monitoring during the first year of life, although the individual patient approach should not be avoided as variations in TSH values are very common.

O – 0124 | ORAL | FETAL AND NEONATAL SURGERY

TROPONIN – OUR EXPERIENCE IN DETERMINATION OF MYOCARDIAL ISCHEMIC DAMAGE IN POSTOPERATIVE PERIOD OF CARDIAC SURGERY IN PEDIATRIC POPULATION

Hristina Mandzukovska, R. Kacarska K. Maneva, Lj. Kojik, Radica Muratovska-Delimitova, M. Kimovska Hristov, S. Naunova-Timovska, T. Voinovska, S. Neshkova, A.Sofijanova
University Clinic for Children's Diseases -Skopje

Abstract:

Background: Troponin is an important biomarker for early evidence of ischemic damage to the heart tissue after a cardiac surgery conducted in the pediatric and adult populations. Elevated values correlate with perioperative and postoperative procedures and practices and are a significant factor for possible later complications.

Methods: The study included 30 operated children divided into two groups, the first group of operated children without a cardiopulmonary bypass (CPB), and the second group of operated children with a cardiopulmonary bypass. The correlation between elevated troponin and perioperative and postoperative parameters was monitored (duration of CPB and aortic cross-clamping time, stay in the intensive care and therapy during respiratory support, during inotropic support, the presence of renal or hepatic failure, postoperative complications).

Results: In both groups of operated children troponin was elevated. In the first group of children operated without cardiopulmonary bypass, the average value of troponin was 9.5 ng/ml (range 6.5-16.8 ng/l). In the second group of operated children (27 children) with cardiopulmonary bypass, the mean value of duration was 81.5 minutes (range 18 to 296 minutes), and X-cross time (aortic cross-clamping time) in the same group of children was with a mean value of 28.2 minutes (range of 0-86 min.). In the first group of children the mean value of troponin was 9.5 ng/ml and in the second group 23.0 ng/ml. The obtained values of troponin have confirmed a highly significant correlation with perioperative and postoperative procedures.

Conclusions: Troponin is a prognostic marker for early evidence of ischemic and necrotic changes of cardiac infarction in the pediatric population in cardiac surgery. Elevated values in the first 24-48 hours are significantly correlated with perioperative and postoperative procedures and are an important indicator of the extent of damage to the heart tissue. But its prognostic significance of myocardial ischemic changes is lost in a period between 2-6 months after cardiac surgery.

Keywords: troponin, cardiac surgery, myocardial ischemic changes

O – 0125 | ORAL | NEONATAL HEALTH

NEONATAL ACUTE KIDNEY INJURY IN INTENSIVE CARE UNIT

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Neonatal Intensive Care Unit, University Children's Hospital- Skopje, R.Macedonia

Abstract

Objective: Acute kidney injury (AKI) is serious clinical problem in newborns in the neonatal intensive care unit (NICU). Predisposing factors for AKI in neonatal age are: certain clinical conditions (asphyxia, prematurity, sepsis, and meconium plug syndrome), therapeutic interventions and other nephrotoxic drugs.The aim of the study were to present the epidemiological and clinical characteristics of neonatal acute kidney injury in intensive care unit.

Subjects and Methods: The study was designed as a prospective, clinical, epidemiological investigation conducted in the period of 3 years, which included 100 newborns hospitalized in NICU of University Children's Hospital. (50 with AKI and 50 without AKI). Medical data records of admitted neonates with AKI were analyzed. The material was statistically processed using methods of descriptive statistics.

Results: The estimated prevalence of AKI in neonates was 6.4%, according to the standard definition, while the prevalence of neonatal AKI according to RIFLE classification was 8.7%. According to pathogenetic mechanisms that lead to kidney injury, prerenal AKI prevailed and it was registered in 78% of male newborns with neoliguric type of AKI. Perinatal asphyxia was a common predisposing factor associated to neonatal kidney injury and it was found in 30% of the examined newborns, being predominant in male infants and born with a low Apgar score in the fifth minute of their life. There was a significant association between the occurrence of AKI and mechanical ventilation and aminoglycoside therapy. The mortality rate was 32% and was significantly higher in the group of newborns with congenital heart diseases.

Conclusion: Acute kidney injury is a life threatening condition. It is an independent contributor to mortality. Early diagnosis and appropriate treatment of acute kidney injury in critically ill newborns, improves the outcome and prognosis.

Key words: acute kidney injury, newborns, predisposing factors

O – 0126 | ORAL | NEONATAL HEALTH

DYNAMIC CHANGES AND CORRELATIONS OF LEPTIN LEVELS WITH ANTHROPOMETRIC PARAMETERS IN EARLY POSTNATAL LIFE

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Abstract:

Introduction: Adipocytokines concentration, their mutual relationship, correlations with anthropometric parameters and dynamic patterns in early neonatal period could be indicators of fetal and neonatal growth maturity level.

Objectives: The aim of the study was to investigate dynamic changes of leptin levels in healthy neonates during early neonatal life, and their association with anthropometric parameters. Material and methods: A group of 39 neonates of both sexes, born at term (AT), classified as AGA (n=26), SGA (n=7), LGA (n=6), were included in the study. Leptin levels were determined in cord blood at delivery and in infants'serum on the 3rd day after delivery. Birth Weight-BW, Birth Length-BL, Body Weight/Body Length ratio-BW/BL, Body Mass Index-BMI, Ponderal Index-PI, were recorded after birth. Results: Mean serum leptin levels of different groups at delivery and on the 3rd day after delivery were not influenced by the gender of the newborns. Performing LSD test, a significant difference was found in leptin levels at delivery (7.31±8.18; vs 22.07±20.98ng/mL) in SGA compared to LGA newborns. Significant decline in leptin levels at delivery from 13.40±13.27ng/mL to 2.12±0.76ng/mL on the 3rd day after delivery was observed. Leptin levels at delivery were positively correlated with BW (r=0.411), BW/BL (r=0.449), BMI (r=0.454), and PI (r=0.487), ($p<0.01$). Small, negative and non-significant correlation between leptin levels at delivery and on the 3rd day after delivery was found (r=-0.058).

Conclusions: These results indicate that the stage of body growth maturity is positively correlated or interrelated to leptin levels indicating that leptin is involved in regulating fetal growth.

Key words: leptin, term newborn, anthropometric parameters

O – 0127 | ORAL | NEONATAL HEALTH

NEONATAL BRONCHIOLITIS: CLINICAL PRESENTATION, MANAGEMENT AND PREVENTION

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Abstract:

Background: Bronchiolitis is a common and serious lung infection among children under the age of two. Its treatment is purely symptomatic or better preventive particularly since certain risk factors of severity have been identified.

Objective: To describe the epidemiological, clinical and therapeutic features of neonatal bronchiolitis in a Neonatal Resuscitation and Intensive Care Unit.

Materiel and methods: A retrospective descriptive study of patients admitted in our Neonatal Resuscitation and Intensive Care Unit over a one-year period (from April 2016 to March 2017).

Results: Our study included 46 patients, 22 male and 24 female. 16 patients were born prematurely (34.8%). 7 patients needed mechanical ventilation at birth (15.2%). The median age at admission was 25 days with minimums and maximums of 6 days and 6 months. 22 patients were exposed to passive smoking (47.8%). Viral contamination was noted in 31 cases (67.4%). 7 patients were exclusively breast-fed. Clinically, 43 patients had coryza and congestion (93.5%). Polypnea was found in 42 cases (91.3%), nasal flaring and retractions in 27 cases (58.7%) and difficulty feeding in 28 cases (60.9%). 12 patients had an oxygen saturation less than 92% with cyanosis (26.1%). 4 patients presented apnea (8.7%). 9 patients had fever at admission (19.6%). Respiratory syncytial virus (RSV) was found in seven nasopharyngeal specimens from the 13 performed. Chest X-ray was performed in 43 patients (93.5%). It was normal in 10 cases (21.7%). It showed hyperinflateed lungs in 20 cases, atelectasis in 12 cases and pneumothorax in one case. Secondary bacterial infection occurred in 17 cases (37%). 10 patients needed mechanical ventilation (21.7%) with a median duration of seven days and extremes between two and 14 days. We used inhaled epinephrine in 38 cases (82.6%), aerosolized corticosteroids in 33 cases (71.7%) and aerosolized anticholinergic agent in 29 cases (63%). Nebulized hypertonic saline was used only in two cases (4.3%). 28 patients benefited from chest physiotherapy (60.9%). Favourable evolution was noted in 43 cases (93.5%). The median length of hospital stay was six days with extremes between one and 27 days. Three patients died: two by acute respiratory distress syndrome (ARDS) and one because of Patau syndrome he had.

Conclusion: Bronchiolitis represents a growing public health problem despite prevention companions. Newborns are particularly vulnerable to this disease. Authors focus on the risk factors and outcome of neonatal bronchiolitis. Despite a lack of supporting evidence, many interventions continue to be used excessively, prompting efforts to curb unnecessary testing and treatments. Prevention remains the best treatment.

Key words : Neonate, bronchiolitis

O – 0128 | ORAL | CESAREAN SECTION

ARISING COMPLICATIONS IN HIGH ORDER CESAREAN SECTION

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Abstract:

Aim: Cesarean delivery (CD) is the most common surgical procedure in Turkey with over 650 000 performed each year. Its incidence has increased to 52% of deliveries in Turkey in 2016 and repeat C/S accounted to nearly half of the C/S deliveries. To compare the maternal and neonatal morbidity and mortality associated with primary and 2nd, 3rd, 4t and fifth or more high-order cesarean sections, a cohort study was carried out at a single center, Zekai Tahir Burak Women's Health Education and Research Hospital, between 2010-2015.

Materials & method: Demographic characteristics, obstetric, surgical and postoperative complications and newborn outcomes of the women sectioned for the first (n=19 607), 2nd(n=11 213); 3rd(n= 3 562), 4th(n= 549) and 5th and more(n=31) were analyzed in a prospective cohort study from a single institution.

Results: Women sectioned, 5th or more had significantly more obstetric and surgical complications in terms of placenta previa/percreata, bladder injury and hysterectomy and intra-abdominal adhesions ($p < 0.0001$) than the women sectioned for the first, 2nd , 3rd and 4th time. Moreover, adverse newborn outcome in terms of prematurity, low Apgar scores (< or = 7) at 1 and 5 minutes, admittance to neonatal intensive care unit and neonatal mortality was higher and the birthweight was lower in the women sectioned 5th or more ($p < 0.01$).

Conclusion: Multiple CD pose increased risk for both the mother and the newborn after the 5th C/S. Increased neonatal risk attributed mainly to decreased gestational age.

O – 0129 | ORAL | PUBLIC HEALTH

LEVEL OF KNOWLEDGE ABOUT CHROMOSOMAL AND FETAL ABNORMALITIES IN PATIENTS REFERRED TO A PERINATAL CENTER

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Abstract:

Objectives: Some basic knowledge and preferences of families about chromosomal abnormalities, anatomical anomalies and pregnancy prognosis are inquired.

Methods: Questionnaires distributed to couples who were referred to a Perinatal Center for routine examination or consultation. They are asked to choose the best option fro them from multiple choice questions.

Results: One-hundred-fifty-nine families completed the form. Majority of pregnant patients were between 24-29 age group. Sixty-six percent was graduate of University/College. Families who assessed their genetic knowledge level as “medium” constituted 52.8% of all cases. Approximately two -third of the families chose the Trisomy 21-18-13 option as the right answer to the question asking the chromosomal abnormalities that increase by age. One-fourth of the families answered right the question asking percentage of abnormal ultrasonographic findings in Down’s syndrome. The idea of termination of fetuses with Down’s syndrome was not approved by 52.8%. Mean detection rate of fetal anatomical abnormalities in ultrasonographic exam was accurately predicted as 60-80 % by half of the families. Three-fourth of the families thinks the rate of diagnosing fetal abnormalities depends on which organ is affected.

Slightly more than fifty percent of families preferred the option saying pregnancy termination in severe anomalies should be based on case by case basis. Approximately 70% of respondents objected to pregnancy termination in mild fetal abnormalities.

Almost half of families answered correctly to the question asking working principle of ultrasonography machine. Only 6.9% of families believed that ultrasonography has deleterious effect on mother and fetus.

More than eighty percent of the families declared that they will opt for genetic screening and ultrasonografic examination in their next pregnancy.

Conclusions: Only half of the families would prefer termination of pregnancy in severe anatomical abnormalities. It is noteworthy that half of the families said they would not terminate the pregnancy with Down’s syndrome

O – 0130 | ORAL | PUBLIC HEALTH

HIGH INTRAUTERINE EXPOSURE TO BISPHENOL A INCREASES TSH LEVELS IN BOY NEONATES: NORTH CYPRUS COHORT STUDY

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Abstract:

Background: Bisphenol A (BPA) is widely used in the manufacture of polycarbonate plastic and resin production industry that can leak to food and baverages. It has been demostrated in animal and human studies that BPA may disturb thyroid functions. However, the relation between intrauterin BPA exposure and newborn tyroid function in neonates is not certain.

Objective: The aim of the study was to evaluate whether intrauterin exposure to BPA is related to thyroid hormone levels in neonates.

Methods: Cord blood samples were collected during delivery and tyroid stimulating hormone (TSH), free T4 (fT4) and BPA levels were measured and prenatal, natal and demographic charecteristics of participants were noted in Near East University Faculty of Medical. BPA levels were measured by sandwich enzyme – linked immunosorbent assays (ELISA). Results: Among 97 healthy newborns (37 girls, 60 boys), the mean BPA, TSH adn fT4 levels were 4.93±2.33 ng/ml, 4.84±1.73 uIU/ml and, 0.95±0.2ng/dl respectively. No statistically significants found between cord BPA and TSH and fT4 levels. The 75th percentile of cord blood BPA was found to be 6.497 ng/ml. In boys with Bpa levels higher than 75th percentile, TSH levels were found to be statistically significantly higher (p: 0,029). This significants not demostrated neither in TSh levels of girls nor in fT4 levels of both genders.

Conclusion: Results suggest that intrauterin exposure to BPA is related to increased TSH in boy neonates. Findings may have implications for fetal and neonatal development.

O – 0131 | ORAL | SECOND STAGE OF LABOR

OUR EXPERIENCE OF PREINDUCTION OF LABOR WITH CERVICAL RIPENING BALLOON

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Abstract:

Objective: Almost 25% of all deliveries start with some method of induction due to the various fetal or maternal factors. Mechanical methods of induction were used over 40 years and have numerous advantages over other pharmacological and non-pharmacological methods without the risk of uterine hyperstimulation. In this trial we want to determine the efficacy of preinduction of labor with mechanical method of induction - Cook® Cervical Ripening Balloon (CRB). The CRB is a silicone double balloon catheter with maximal inflation of 80 ml of saline infusion.

Methods: Totally, 87 pregnant women in singleton term pregnancy (median 40 weeks, range 37-42) in vertex presentation were enrolled in this trial during the one year period. Majority were primiparous women 88.5% and the most common reason for induction were: gestational diabetes 40.2% following gestational age of 42 weeks 12.6% and hypertensive disorders in pregnancy 11.5%. All enrolled pregnant women had Bishop Score < 5. After the placement the CRB stays in cervical canal for 12 hours. Median cervical dilatation after removing the CRB was 3 cm with range 1-8 cm and all women go into delivery after removing the CRB.

Results: Median duration of labor in all enrolled pregnant women were 6 hours and 15 minutes with range 30 minutes to 15 hours. There were no case of uterine hyperstimulation during the preinduction with CRB. Further augmentation of labor with oxytocin were performed in 91.9% women whereas epidural analgesia were administered in 51.7%. Totally 65.5% were delivered vaginally whereas 34.5% were delivered by cesarean section (CS). The reasons for CS were: dystocia in 20/30, abnormal CTG trace and signs of possible fetal asphyxia in 9/30, and in one case the reason for CS was footling breech presentation after the placement of CRB on vertex presentation. Discomfort after the placement of CRB was reported in only 2 women.

Conclusion: Preinduction of labor with CRB was associated without risk of uterine hyperstimulation together with high patient satisfactory without adverse side effects. The percentage of vaginal delivery was comparable with the other methods of preinduction.

O – 0132 | ORAL | PUBLIC HEALTH

THE IMPORTANCE OF VITAMIN D DEFICIENCY IN THE DEVELOP-MENT OF PLACENTAL INSUFFICIENCY AND THE INTRAUTERINE GROWTH RETARDATION: PREDICTION AND PREVENTION

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Abstract:

A high percentage of women of reproductive age have got the deficient of vita-min D, and the pregnant women are exposed to even greater risk [19, 20, 21, 22]. The various studies on this issue shows the conflicting results on the relationship between 25 (OH) D level during pregnancy and adverse effects on the health of the mother and fetus, as skeletal disorders and the problems outside of the bones (autoimmune disease, cardiovascular disease, diabetes and some types of cancer via "fetal imprinting"). Thus, it is advisable to consider Vitamin Д deficiency (VDD) to mothers and their children, so the whole strategy can be implemented to prevent VDD in pregnancy and lactation in order to stop his influence on the fetus, newborn and child aimed at a possible reduction in the future development of chronic diseases in adulthood.

The aim of the study was to determine the importance of the vitamin D deficiency in the development of the placental insufficiency and the intrauterine growth retardation, its role in prediction of this complication.

There were evaluated 825 pregnant women on a scale of perinatal risk. 184 (22.3%) were classified as high risk. The placental insufficiency and IUGR later have formed in 146 of 184 women (79.35%).

In accordance with the research's tasks and according to the course of pregnancy and its outcome we formed the final groups:
• the main group (with the IUGR) – 146 women whose pregnancy was complicated by placental insufficiency and resulted in the birth of live children with the IUGR;
• comparison group (no IUGR) – 38 women whose pregnancy proceeded without signs of placental insufficiency (IUGR) and resulted in the birth of live full-term babies.

The clinical examination of the women of the main group and the comparison group were carried out in the same time period. We performed the collection and analysis of somatic, obstetric and gynecologic history. Dynamic antenatal care for the current pregnancy and the analysis of the outcomes as well as clinical examination of the newborns were conducted. The evaluation of the first prenatal screening (PAPP-A and β-HCG) and the studies of the level of serum markers of disturbed placentation and IUGR (IGF-1 and 25-OH vitamin D) were conducted in the first trimester of pregnancy. The ultrasound and Doppler examinations was carried out in terms of pregnancy 12, 24-25 and 38-39 weeks.

The level of vitamin D (or 1,25-dihydroxyvitamin D (1,25(Oh)2 Vitamin D)) in the blood serum of pregnant were determined by enzyme immunoassay in the first trimester of pregnancy at term 11-12 weeks. The level of Vitamin D 30-80 ng/ml (less than 10 ng/ml - a significant deficit, 10-19 ng/ml mild deficiency, 20-29 ng/ml - insufficiency). The regression-factor analysis was conducted to

assess the significance of each of the studied risk factors in the formation of FGR. After analyzing all the risk factors, we were able to identify a set of the most important factors. The most important factor was the level of IGF-1, and the minimum - the amount of β-hCG, the number of parity and the availability of abortion in the first trimester in the previous pregnancies. The group of negative factors included: the levels of β-hCG, vitamin D (1,25 (OH) 2 vitamin the D), anemia, kidney disease. The group of positive factors included: PAPP-A, the number of parity, the threat of termination of pregnancy, the level of IGF-1, and the availability of abortion in the first trimester in the previous pregnancies. Using the method of regression-factor analysis of the mathematical model for early prediction of IUGR is to define prognostic index (PI2) according to the formula: PI2 = -0,43739X1 - 0,016018X2 - 0,212004X3 - 0,108084X4 + 0,1497046X5 + 0,079163X6 + 0,3928565X7 + 0,3081384X8 + 0,00327X9 - 0,706, where X1 is the absence/presence of varicose veins of the lower extremities (0/1); x2 — the levels of vitamin D, ng/ml; X3 is the absence/presence of anemia (0/1); X4 — the level of β-HCG in the first prenatal screening, MoM; X5 — the absence/presence of abortion in the first trimester in history (0/1); X6 — the number of births in history; X7 — the absence/presence of threat of interruption of pregnancy (0/1); X8 — the level of PAPP-A in first perinatal screening, MoM; X9 — the level of IGF-1, ng/ml; 0.706 — constanta.

If PI2 was ≤ 0.58 projected low risk of IUGR, while PI2 ≥ 0.67 possible to make the conclusion about high risk of development of IUGR.

Levels of Vitamin D 10 ng / ml are associated with rachitis and osteomalacia in children and adults. Between 10-19ng/ml, there is increased rate of bone resorption and an increased risk of secondary hypoparathyroidism. Thus, the MOM recommends that the threshold level of 20 ng/ml as adequate to maintain bone health in all age groups. We have found that for pregnancies complicated by arrested development, characterized by low levels of vitamin D (19.37±1.75 and 28.973±2.15 ng/ml, respectively), β-HCG (1.4±0.12 and 1.89±0.55 m, respectively) and IGF-1 (193.18±12.87 and 201.75±14.88 ng/ml, respectively).

Thus, the determination of the level of vitamin D and the elimination of the deficit can significantly reduce the risk of formation not only of the syndrome of delayed fetal growth, but the frequency of vitamin D-dependent morbidity of pregnant women (preeclampsia, etc.), newborns, infants, and reduce long-term morbidity in adults due to adverse metabolic imprinting of the fetus.

O – 0133 | ORAL | TWIN GESTATIONS

THE INCREASED RISK OF CARDIAC DYSFUNCTION DUE TO TWIN PREGNANCY

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Abstract:

Objective. The maternal cardiovascular system undergoes significant changes throughout pregnancy, and twin pregnant women are exposed to greater hemodynamic changes than singleton pregnant women. These physiological changes impose considerable stress on maternal hearts and increase the risks of pulmonary edema and peripartum cardiomyopathy. The aim of this study was to reveal the changes in cardiac function in twin pregnant women compared with singleton pregnant women.

Material & Methods. This study was a prospective cohort study in a single perinatal medical center, and enrolled 121 twin pregnant women from January 2010 to February 2016. Exclusion criteria included preeclampsia and cardiovascular disease. The follow-up duration was at early, middle, and late pregnancy, within 5 days after delivery, and at one-month postpartum. Trans-thoracic echocardiography and serum brain natriuretic peptide (BNP) levels were obtained each time. Left ventricular ejection fraction (LVEF) was examined to evaluate systolic function. LVEF<55% was defined as systolic dysfunction. Early transmitral velocity/early diastolic velocity of the mitral annulus (E/E') were measured to evaluate diastolic cardiac functions and E/E' >15 was defined as diastolic dysfunction.

Results. A total of 142 twin pregnant women and 44 singleton pregnant women were enrolled in this study. Twenty-one twin pregnant women were excluded due to preeclampsia or history of cardiovascular disease. There was no significant difference in maternal age and pre-pregnancy BMI between two groups. LVEF were not significantly different in both twin and singleton pregnant women through the follow-up duration. There was no reduction in E/E' and BNP levels in singleton pregnant women. In twin pregnant women, E/E' was not different compared with singleton pregnant women at early and middle pregnancy and one-month postpartum. However, E/E' elevation was observed at late pregnancy (9.6 ± 2.8, $p<0.01$) and within 5 days after delivery (9.7 ± 2.2, $p<0.01$) compared with early and middle pregnancy. BNP elevation was much higher in twin pregnant women than singleton pregnant women in late pregnancy (43.4 ± 8.8, $p<0.01$) and early postpartum (46.9 ± 8.0, $p<0.05$).

Conclusions. There was no significant change in LV systolic function throughout pregnancy even in twin pregnancy and LV diastolic function was also preserved in singleton pregnancy. However, LV diastolic function that was measured by E/E' deteriorated and BNP levels were elevated at late pregnancy and early postpartum in twin pregnant women. Twin pregnant women have a higher risk of cardiac functional deterioration due to greater increase in plasma volume. Therefore, late pregnancy and early postpartum should be considered as high-risk periods for developing maternal cardiac dysfunction.

O – 0134 | ORAL | TWIN GESTATIONS

TG/HDL C RATIO AS A MARKER OF INSULIN RESISTANCE IN DISCORDANT TWINS AT BIRTH

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Abstract:

Objectives; The recent clinical and experimental studies have highlighted the role of adipose tissue (AT) in the development of insulin resistance (IR) and metabolic syndrome (MS) as consequences of fetal programming in utero.The aim of this study was to investigate whether triglyceride (TG)/ high density lipoprotein cholesterol (HDLC) ratio, as a marker of IR, in cord blood (CB) and on day3 (d3) were related to impaired fetal growth in IUGR twins.

Methods: A prospective study was conducted and two study groups estabilished: 36 discordant (birth weight BW discordance ≥20% calculated in relation to the heavier cotwins) and 42 concordant (birth weight discordance ≤10%) twin pairs≥32 gestational weeks (GW) were included. BW of the smaller twins was less than 10th percentile (IUGR twins) with abnormal umbilical artery Doppler velocimetry. Umbilical venous CB and venous blood samples on d3 were obtained from each pair of twins in the fasting state both for hormone determination (leptin, adiponectin and insulin) and biochemical analysis.

Results: In CBTG/HDL ratio was significantly higher in IUGR (median 0,67, range 0,26-3,05) compared to AGA co-twins (median 0,34, range 0,18-1,8; p=0,002) and to smaller concordant twins (median 0,38, range 0,09-2,0; p=0,014). TG/HDL C on d3 remained higher in IUGR twins than in AGA co-twins (IUGR median 1,67, range 0,39-10,84 versus AGA median 1,09, range 0,41-3,49; p=0,008).Within the discordant group of twins we found no correlations between leptin, adiponectin and TG/HDLC ratio. In concordant larger twins on d3, leptin was inversely marginally related to TG/HDL (p=0,058).

Conclusions: Our results show that TG/HDL C is higher IUGR twins. This marker of insulin resistance in IUGR twins is not influenced by adipokines in the first few days of life.

O – 0135 | ORAL | ULTRASOUND IN DELIVERY ROOM

COMPARISON OF TRANSLABIAL ULTRASOUND AND DIGITAL CERVICAL EXAMINATION IN THE PREDICTION OF THE PROGRESS OF LABOR

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Abstract:

Background: To compare two dimensional translabial ultrasound assesment of cervical dilatation with digital examination for the prediction of the progress of labour

Materials and Methods: A prospective comparative trial was carried out on low risk term pregnant women having single fetus at vertex presentation with both intact and ruptured amniotic membranes at Zekai Tahir Burak Women's Health Education & Research Hospital between November 2016 and February 2017. The correlation between translabial ultrasound assessment of cervical dilatation with digital examination was investigated.

Results: Comparisons were performed on 100 measurements. There was no statistically significant difference in antero-posterior (A-P) or transverse diameter of the cervix between the two groups (p=0,079 and p=0,496 respectively). The Intraclass Correlation Coefficient (ICC) value between digital vaginal examination and A-P diameter showed high consistency with a value of 0,858 in the study population, whereas ICC value for tranverse diameter measurements was 0,566 as a low consistency. Certain characteristics of the woman (including parity, the presence of rupture of membranes) did not reveal a statisticially significant difference in A-P diameter measurements and depicted a high consistency. The most important parameter affecting the ultrasonographic measurements is the cervical dilatation. For women with a cervical dilatation 6 cm or more (n=55), digital vaginal examination and translabial A-P ultrasound measurements had a mean difference of -0,01 cm (%95 GA: -0,15; -0,13) (p=0,879), revealing an ICC value of 0.704 (95% CI: 0.541-0.816) with moderate compatibility . Under 6 cm dilatation (n=45), technique was inconsistent. Under 6 cm cervical dilatation, digital vaginal examinations had a mean difference of -0,21 cm (%95 GA: 0,39-0,03) with a significant statistical difference(p=0,02).

Conclusions: Though transperineal ultrasound may be a complementary method to traditional clinical examinations, under 6 cm dilatation, translabial ultrasound technique may have some limitations especially in busy labor wards

O – 0136 | ORAL | VERY LOW BIRTH WEIGHT INFANTS

SURGICAL NECROTIZING ENTEROCOLITIS IN VERY LOW BIRTH WEIGHT INFANTS (VLBWI): INCIDENCE AND MORTALITY RISK FACTORS

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Abstract:

Introduction: Necrotizing enterocolitis (NEC) is one of the most common surgical emergencies in very low birth weight infants (VLBWI) [birth weight(BW)<1,500g].

Objective: The aim of this study was to determine the incidence of NEC in VLBWI and compare the risk factors for outcomes in VLBWI with surgical NEC (sNEC).

Subjects/methods: We have performed a retrospective review of VLBWI with NEC who underwent a surgical procedure between January 2009 to June 2017. Data collected include: mode of conception, gestational hypertension, placenta abruption, chorioamnionitis, preterm/premature/rupture/of/membranes (PPROM), uterus contractions (UC), tocolysis, mode of delivery, gestational age(GA), BW, perinatal asphyxia, gender, intrauterine growth retardation, respiratory distress syndrome, intraventricular hemorrhage, patent ductus arteriosus, enteral feeding, age at perforation, interval time between the offspring of NEC and the operation and laboratory findings (PLT, PT, INR, aPTT). Data above were analyzed regarding their possible relationship with mortality.

Results: During study period 4,618 neonates were admitted to our hospital and 639 (13.8%) of them were VLBWI. Among these 639, twenty-eight(4.4%) have NEC. Of the 28 infants with NEC, 21 (75%) were operated on. Following treatment, 14 patients (groupA) recovered and were discharged, while 7 patients (groupB) died (mortality 33.3%). All deceased neonates were male. The median age of NEC onset (p=0.167), the GA [groupA:29.12.6w vs groupB:27.21.8w, (p=0.108)] and the BW [groupA:1037313g vs groupB:835250g, (p=0.086)] were not different between the two groups. From the above factors only male gender(p=0.018) and PROM(p=0.025) were associated with mortality as well as the presence of UC was associated with a lower incidence of mortality(p=0.024). No difference was noticed between the rest of the factors.

Conclusions: In our NICU the incidence of sNEC in VLBWI was low and the survival rate was high and similar to that of other multicenter studies. However, sNEC remains a major cause of morbidity and mortality.

O – 0137 | ORAL | VERY LOW BIRTH WEIGHT INFANTS

PROBIOTIC SUPPLEMENTATION IN PREMATURE INFANTS

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Abstract:

Introduction. The neonatal digestive system has a number of characteristic features, one of which is the absence of bacteria. The bacterial colonization in the preterm newborn is compromised by various factors. The balance of intestinal flora is crucial for the postnatal development of the immature digestive system, as well as for the suppression of pathogenic and conditionally pathogenic strains.

Objectives. To examine the effect of probiotics administration on the incidence of nosocomial infections and stabilization of feeding tolerance in premature newborns.

Material and methods. 39 preterm infants born before 32nd gestational week (GW) are divided into two groups with and without probiotic supplementation. Comparable indices: delivery way, weight and gestational age at birth, concomitant pathology, day of reaching optimal nutritional tolerance, antibiotic therapy, nosocomial infections (NIs) – risk factors, frequency and etiology, duration of hospital stay, status at discharge.

Results. In the group with probiotic supplementation, optimal feeding tolerance is reached at 16±12 days and in non-supplemented patients - 14±8 (no significant difference). The incidence of NIs in the first group is 39.1%, and in unprotected patients - 37.5%, the difference is also not significant. However, in patients with probiotic prophylaxis are isolated significantly more often E. coli and more than 1 causative agent, compared to that in unprotected patients.

Conclusions. According to our study, the probiotic administration in infants born before 32nd GA doesn't bring the expected benefits, but what is more, it also promotes the growth of E. coli and mixed infections. Establishing good nutritional tolerance is not affected by prophylactic probiotic use. However, more clinical studies are needed to study the positives and negatives of probiotic use in premature infants, as well as to optimize probiotic supplementation guidelines.

O – 0138 | ORAL | PUBLIC HEALTH

INCIDENCE AND LEADING CAUSES OF EARLY NEONATAL DEATH IN TUZLA CANTON, BOSNIA AND HERZEGOVINA

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Abstract:

Objectives: The main aim is to determinate the incidence and leading causes of early neonatal deaths (END) during the period of ten years (2005-2015).

Methods: Data for this study were retrospectively collected from birth protocols of Neonatal Unit in UKC Tuzla. The analysis included variables such as the numbers of live births, causes of death, gender, gestational age, weights at birth and ages in moment of death.

Results: During the period of ten years (2005-2015) there were 46708 live births and 316 early neonatal deaths recorded.Overall the early neonatal mortality accounted for 6.7 per 1000 live births.The END rate had decreased between the years 2005 and 2015(7.8 to 4.4 per 1000 live births).Out of 316 ENDs, 196 were male infants,which is 24 % higher than the number of female infants (120).According to gestational age, the highest early neonatal mortality rate (75%) was recorded in low birth weight infants (<2500 gram).Most ENDs were noted within the first 24 hours of life (52.8 %), 24-72 hours (33.9 %),>72 hours(13,3%).The most frequent cause of this death during the study period was prematurity,particularly in male infants with gestational age under 37 weeks and birth weight between 500 and 1500 grams.Other common causes of death were congenital anomalies in 68 cases(21.5 %), hypoxia and trauma in 56 cases(17.7%) and infection in 30 cases (9.5%).The cause of END was unknown for 1.3 %.

Conclusion: According to the decreasing trend in END rate, the expected rate in year 2016 is 4.01/1000. Advancements in essential neonatal care, particularly for premature infants could lead to significant decrease in END rate.

O – 0139 | ORAL | VERY LOW BIRTH WEIGHT INFANTS

INCIDENCE AND RISK FACTORS OF POSTNATAL CYTOMEGALOVIRUS INFECTION IN VERY LOW BIRTH WEIGHT INFANTS

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Abstract:

Introduction. Premature infants have a high risk of acquired Cytomegalovirus (CMV) infection from own mother's or donor's breast milk and from the blood transfusion. The aim of this study was to examine the morbidity and risk factors for postnatal CMV infection in very low birth weight (VLBW) infants.

Methods. The study was performed at the NICU of Juntendo University Shizuoka Hospital, Japan. VLBW infants admitted to the unit from October 2010 to August 2013 were the subjects of this study. Spot urine samples were obtained at birth and discharge. Urinary CMV was analysed by loop-mediated isothermal amplification. Data collected included the clinical course, history of blood transfusion and feeding with donor breast milk. We compared the results between the postnatal CMV infection group (pCMV: negative at birth and positive at discharge) and no infection group (no CMV).

Results. There were 2 infants with prenatal CMV and 8 with pCMV; 60 infants had no infection. The mean gestational age at birth was 27.7 ± 3.4 weeks for the pCMV group and 28.2 ± 2.4 weeks for the no CMV group. The median BW at birth was 846 ± 359 g for the pCMV group and 1006 ± 251 g for the no CMV group. Complications including CLD and PVL and the requirement for home oxygen therapy (HOT) were significantly higher in the pCMV group than in the no CMV group ($p < 0.01$).

Discussion. In this study, the rate of postnatal CMV infection in VLBW infants was 11.8% and severe symptoms did not develop in any infant. Besides, postnatal CMV infection may lead to complications including CLD and PVL and may require HOT.

O – 0140 | ORAL | PERINATAL INFECTIONS

TISSUE FACTOR-BEARING MICROPARTICLES ACTIVITY IN CORD BLOOD IS NOT INFLUENCED BY INTRAUTERINE INFECTION

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Abstract:

Objectives: A body of clinical and experimental data suggests that blood tissue factor-bearing microparticles (MPs-TF) are the main reservoir of circulating tissue factor (TF). Hence, the present study aims to investigate the association of MPs-TF and total TF with intrauterine infection.

Methods: We conducted a pilot study that includes 48 newborns (23 preterm and 25 term). We excluded infants with major congenital abnormalities. The median (Me) gestational age at birth was 38 weeks (range, 25–42 weeks) and the median birth weight was 2840 g (range, 850-4790 g). Umbilical venous cord blood was collected at birth. MPs-TF activity and total TF levels were measured in plasma obtained from cord blood using specific enzyme-linked immunosorbent assay kits (Hyphen BioMed, France). Furthermore, the ratio of TF to MPs-TF was calculated. The results are expressed as Me and interquartile range (IQR). The study population was divided into subgroups based on the clinical and laboratory diagnosis of intrauterine infection. A non-parametric Mann-Whitney *U* test was used to compare groups. Correlations were analysed using Spearman's correlation coefficient.

Results: From all of the patients 12 newborns were diagnosed with intrauterine infection. The activity of MPs-TF was almost two times higher in the group with intrauterine infection, however, without statistical difference (Table 1). There were no statistically significant differences between newborns with intrauterine infection and without intrauterine infection in total TF levels and TF/MPs-TF ratio (Table 1). When two groups were analysed together no significant correlations were detected between the evaluated plasma parameters ($p > 0.05$). Plasma MPs-TF activity showed a moderate negative correlation with total TF levels only in newborns with intrauterine infection (Spearman's $R = -0.6$, $p=0.03$).

Conclusions: Although MPs-TF are components of cord blood, their activity is not influenced by intrauterine infection. Future study is needed to confirm our findings.

Table 1. Plasma MPs-TF activity, total TF levles and TF/MPs-TF ratio stratified according to the presence or absence of intrauterine infection.

Parameter [unit]	**Intrauterine infection (n=12)**	**No intrauterine infection (n=36)**	**p**
	Me (IQR)		
MPs-TF [pg/mL]	10.64 (7.06-17.82)	6.30 (4.59-16.05)	0.47
Total TF[pg/mL]	49.94 (44.32-51.68)	50.02 (44.80-57.34)	0.61
TF/MPs-TF	4.69 (2.82-7.60)	7.52 (4.02-11.30)	0.24

Key words: tissue factor-bearing microparticles, tissue factor, intrauterine infection

O – 0141 | ORAL | NEONATAL INFECTIONS

PYROSEQUENCING AS A RAPID DIAGNOSIS APPROACH IN NEONATAL SEPSIS

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Abstract:

Background: The current diagnosis tests for sepsis in preterm and very preterm newborns (NB) have poor sensitivity and specificity for diagnosis and opportune treatment.

Methods: Study design: A cross-sectional study of NB at risk of sepsis was conducted during 2016 at National Institute of Perinatology. Parental informed consent was obtained. Pyrosequencing (PS) [Qiagen, Hilden, Germany] was chosen to get a faster identification of etiological agents; bacterial DNA extraction and detection was by a segment amplification of 16S ribosomal fraction by Real-Time PCR and pyrosequencing performed in 100 microliters of whole peripheral blood. Blood culture (BC) was the gold standard to compare. Statistical analysis included chi-square test for categorical variables.

Results: 96 samples from 78 term and preterm NB were studied, 23 NB with clinical sepsis (CS). BC was positive in 12/23 CS (P = 0.014) with 52% sensibility and 77% specificity. PS identified 11/23 CS (P = 0.084), with 48% sensibility 74% specificity. Four cases were positive by BC, but not by PS; while two were positive by PS, but not by BC. Prematurity remain as the main factor associated to misidentifications (12/23 CS).

Conclusions: Pyrosequencing is fast enough to give a positive result in five hours. Both techniques had similar performances in detection. However, PS results are faster than BC, while BC is cheaper than PS. At this moment, PS is useful to sepsis identification, but does not substitute BC. Further larger studies are required to achieve a better performance of the PS test in NB sepsis diagnosis.

O – 0142 | ORAL | CESAREAN SECTION

THE VALUE OF ANTENATAL CORTICOSTEROIDS INJECTION ON NEONATAL RESPIRATORY FUNCTION AFTER ELECTIVE CESAREAN SECTION-A COMPARATIVE STUDY

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Abstract:

Objectives: To study the effect of prophylactic corticosteroid administration 48 hours before the elective cesarean sections (ECS) at term, in contrast to usual management without corticosteroids in neonates. Antenatal corticosteroid administration is related to less neonatal respiratory morbidity and admission in neonatal intensive care unit because of respiratory complications.

Methods: A retrospective study was conducted in neonates who were born between 37th and 39th gestational week after elective cesarean section. 718 pregnant women at term, who underwent ECS were enrolled. We categorized the participants in two groups. Group 1 was consisted of 315 pregnant women who received corticosteroids administration (a single dose of 12mg betamethasone (BS) 48 hours before the ECS). Group 2 was consisted of 403 pregnant, who did not receive any BS before the ECS.

Results: There were no significant differences ($p > 0.05$) in APGAR scores, at the 1st and 5th minute of birth between the two groups. 19 (2.6%) children were born with respiratory problems. The incidence of respiratory problems was significantly higher ($p < 0.05$) in women who did not receive corticosteroids in contrast to those who received (3.7% vs 1.3%). In group 2, the lack of corticosteroids administration was associated with a 3-fold increase in risk of respiratory problems in neonates (OR: 3.01). Also, in this group, we found a trend of an increased risk of respiratory problems in neonates who born during 37th or 39th week (40% and 75%, respectively), but it was not statistically significant.

Conclusions: The single-dose of prenatal administration of (BS) 48 hours before the elective cesarean section seems to improve the lung function of the neonates.

O – 0143 | ORAL | PRENATAL DIAGNOSIS

ADVANCE 3D ULTRASOUND TECHNIQUES IN DETECTION OF FACIAL CLEFTS FROM 12-18TH WEEK OD PREGNANCY

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Abstract:

The aim: Analysis of diagnostic value of 3D multislice ultrasound and 3D Omniview technique in analysis of fetal face and hard palate and detection of cleft palate from 12 -18th week of pregnancy.

Methods: In this study 250 patients with normal pregnancy were included. After obtained midsgital scan in 3D mode and switching to 3D multislice or Omniview technique fetal face morphology was analysed in 3D multislice oblique mode and Omniview mode. Utilizing five parallel planes in which the central plane was set to vizualize retronasal triangle, fetal face and hard palate were presented in this technique. In 6 patients with cleft palate obtained volumes of facial midsagital scan were analyzed in 3D multislice mode to test the diagnostic value of this technique.

Results: In 250 patients with normal pregnancy in 3Dmultislice oblique technique or Omnview mode, retronasal triangle and hard palate were vizualized in minimum three planes and normal morphology of palate was confirmed. In 6 patients defect in retronasal tirangle morphology and palate was confirmed. One patient at 18 week of pregnancy, besides facial cleft had multiple anomalies and triploidy. Two patients at 15 and 16 weeks had holoprosencephaly and facial cleft associated with trisomy 13. In two patients facial clefts were suspected at 12 and confirmed at 17 weeks with normal kariotype. The remaining one case was twin monochorionic pregnancy where facial cleft was detected at 16 weeks and the remaining twin had normal morphology. Fetal kariotype was also normal.

Conclusion: Analysis of fetal facial morphology and hard palate in 3D multislice oblique mode or Omnivew technique, after obtaining 3D midsagital scan, can be very useful diagnostic procedure in detection of facial clefts, either isolated or associated with other fetal anomalies.