www.jpnim.com Open Access eISSN: 2281-0692
Journal of Pediatric and Neonatal Individualized Medicine 2018;7(1):e070130
doi: 10.7363/070130
Published online: 2018 Mar 21

Abstracts

Selected Abstracts of the 20th National Congress of the Italian Society of Perinatal Medicine (*Società Italiana di Medicina Perinatale*, SIMP) • Session "Perinatal infections"

CATANIA (ITALY) • MARCH 22ND-24TH, 2018

SIMP PRESIDENT

Irene Cetin

CONGRESS PRESIDENTS

Nicola Chianchiano, Angela Motta

SCIENTIFIC COMMITTEE

Mariarosaria Di Tommaso, Gianpaolo Donzelli, Luca Ramenghi

Guest Editors: Irene Cetin, Nicola Chianchiano, Angela Motta

Organizing secretariat

SIMP Società Italiana di Medicina Perinatale

MCA scientific events

HOW TO CITE

[Abstract's authors]. [Abstract's title]. In: Selected Abstracts of the 20th National Congress of the Italian Society of Perinatal Medicine (*Società Italiana di Medicina Perinatale*, SIMP); Catania (Italy); March 22-24, 2018; Session "Perinatal infections". J Pediatr Neonat Individual Med. 2018;7(1):e070130. doi: 10.7363/070130.

ABS 1

ROLE OF ABNORMAL CTG FEATURES IN CLINICAL AND SUBCLINICAL CHORIO-AMNIONITIS

L. Galli[1,2], V. Whelehan[1], A. Archer[1], A. Dall'Asta[2], T. Frusca[2], E. Chandraharan[1]

[1]*St George's University Hospitals NHS Foundation Trust, London, UK*

[2]*Obstetrics and Gynecology Unit, University of Parma, Parma, Italy*

INTRODUCTION

Chorioamnionitis is associated with a significantly increased risk of adverse perinatal outcomes. The objective of this study was to compare within a selected cohort of fetuses with cardiotocography (CTG) features suggestive of clinical or sub-clinical chorioamnionitis the CTG features associated with adverse perinatal outcomes.

METHODS

This was a retrospective analysis of 2,105 CTG traces at St George's Hospital, London. CTG diagnosis of chorioamnionitis was based on persistent rise in the baseline for the given gestation in the absence of maternal dehydration or a persistent increase in the baseline during labour > 10%, without preceding decelerations. The analyzed CTG abnormalities included loss/absence of accelerations, loss/absence of cycling, loss/absence of variability, baroreceptor decelerations, chemoreceptor decelerations and the presence of saltatory or sinusoidal pattern, while the evaluated perinatal outcomes comprised the presence of meconium-staining of amniotic fluid, APGAR less than 7 at 1 and 5 minutes, cord arterial and venous pH, cord arterial pH < 7.0 and neonatal intensive care unit (NICU) admission.

RESULTS

Overall, 356 fetuses fulfilled the CTG criteria for chorionamnionitis. Loss/absence of variability was the only CTG abnormality which was significantly associated with all the considered adverse perinatal outcomes and also with lower cord arterial and venous pH ($p < 0.01$ for both). Loss/absence of accelerations and loss/absence of cycling were more common in those fetuses who experienced all the considered perinatal outcomes but not umbilical cord pH < 7.0 (p 0.12 and p 0.08, respectively). Chemoreceptor decelerations were significantly related to low APGAR scores at 1 and 5 minutes ($p < 0.01$ and 0.01 respectively) and meconium-stained fluid ($p < 0.01$), while the presence of saltatory or sinusoidal patterns was variably associated with low APGAR at 1 and 5 minutes, meconium-stained amniotic fluid and NICU admission. Finally, no association was found between baroreceptor decelerations and any of the considered adverse perinatal outcomes within the study group.

CONCLUSIONS

Within a selected cohort of fetuses showing CTG features suggestive of chorioamnionitis, the presence of additional CTG abnormalities proved to be variably but significantly associated with all the considered adverse perinatal outcomes, with the only exception of the baroreceptor decelerations.

ABS 2

HISTOLOGICAL CHORIOAMNIONITIS AT TERM: WHAT CLINICAL VALUE?

A. Pintucci[1], S. Consonni[1], L.E. Gioia[1], P. Colombo[2], P. Di Lorenzo[1], I. Vaglio Tessitore[1], F. Moltrasio[3], G. Bovo[4], A. Locatelli[1]

[1]*Department of Obstetrics and Gynecology, ASST Vimercate, Carate Hospital, University of Milano-Bicocca, Milan, Italy*

[2]*Department of Pediatric and Neonatology, ASST Vimercate, Carate Hospital, Carate Brianza, Italy*

[3]*Department of Pathology, Desio Hospital, University of Milano-Bicocca, Monza, Italy*

[4]*Unit of Pathology, ASST Vimercate, Vimercate Hospital, Vimercate, Italy*

INTRODUCTION

To examine the frequency and the risk factors of histological chorioamnionitis (HCA) in term pregnancy and to understand the impact of HCA on maternal and neonatal outcome according to the stage of histological inflammatory response.

METHODS

A retrospective cohort study of all histological placental analysis obtained after delivery of 1,122 term pregnancies between 2014 and 2017 at Carate Brianza Hospital, University of Milano-Bicocca. Included were all cases of HCA. The diagnosis of suspected intraamniotic infection (IAI) was made when the maternal T° was ≥ 39.0°C or 38.0-38.9°C with at least another clinical sign (maternal

leukocytosis, maternal and fetal tachycardia [Tac], meconium stained amniotic fluid). Maternal adverse outcomes were defined as postpartum hemorrhage, endometritis or composite maternal bad outcome (Mbad) including fever after hospital discharge and/or prolonged antibiotic therapy. Neonatal adverse outcomes were defined as asphyxia, positive blood culture, high CRP or neonatal composite bad outcome (Nbad) including admission to NICU and/or prolonged antibiotic therapy. Analyses were conducted by SPSS® 24.0; p-value < 0.05 was considered significant.

RESULTS

Among 6,962 deliveries, 1,314 placentas, of which 1,122 at term, were analyzed. 30.2% of term placentas had HCA. 5.2% of term pregnancies showed suspected IAI. 3.5% of placentas had HCA but no signs of IAI were observed during labor. 5.8% of pregnancies showed at least one sign of IAI but no signs of HCA were found. Prolonged rupture of membrane ≥ 18 hours and epidural analgesia were related to maternal fever in labor ($p < 0.02$) and fetal Tac ($p < 0.01$). The association between epidural analgesia and maternal fever in labor (OR 3.8, $p < 0.001$) persisted at multivariate analysis. All clinical signs of IAI were related to induced labor ($p < 0.02$), use of oxytocin ($p < 0.00$) and internal electrode for fetal heart rate monitoring ($p < 0.00$) while only maternal Tac was significantly related to HCA. The presence of at least two signs of IAI plus HCA was related at univariate and multivariate analysis to Mbad (OR 7.12, $p < 0.008$). Endometritis ($p < 0.03$) and Mbad ($p < 0.02$) were related to a whole inflammatory placental involvement. High CRP ($p < 0.001$) and positive blood neonatal culture ($p < 0.001$) were related to the involvement of the fetal side of placenta. Nbad was related to clinical signs of IAI ($p < 0.03$), but not to HCA alone ($p = 0.1$).

CONCLUSIONS

HCA occurs when clinical signs of IAI are combined with an altered uterine function. Maternal and/or neonatal outcomes are more likely to be adverse when this triad is present: clinical signs of IAI, need for oxytocin, HCA. HCA without clinical signs of IAI and altered uterine function isn't related to bad effects for mothers and newborns. The HCA *per se* does not seem to have an independent clinical value.

ABS 3

VALNOCTAMIDE RESCUES CYTOMEGALOVIRUS-INDUCED ABNORMAL BRAIN ONTOGENY AND DEAFNESS

S. Ornaghi[1,2,3,4], J. Bai[5], W. Tan[6], J. Santos-Sacchi[6,7,8], D. Navaratnam[5], A.N. van den Pol[1], M.J. Paidas[2], P. Vergani[4]

[1]Department of Neurosurgery, Yale University School of Medicine, New Haven, Connecticut, USA

[2]Department of Obstetrics, Gynecology, and Reproductive Sciences, Yale University School of Medicine, New Haven, Connecticut, USA

[3]PhD program in Neuroscience, University of Milan-Bicocca School of Medicine and Surgery, Monza, Italy

[4]Department of Obstetrics, MBBM Foundation, University of Milan-Bicocca School of Medicine and Surgery, Monza, Italy

[5]Department of Neurology, Yale University School of Medicine, New Haven, Connecticut, USA

[6]Surgery (Otolaryngology), Yale University School of Medicine, New Haven, Connecticut, USA

[7]Neuroscience, Yale University School of Medicine, New Haven, Connecticut, USA

[8]Cellular and Molecular Physiology, Yale University School of Medicine, New Haven, Connecticut, USA

INTRODUCTION

Cytomegalovirus (CMV) is the most common infectious cause of brain damage and non-hereditary sensorineural hearing loss in newborns and children. No treatments are recommended for affected fetuses during pregnancy, and neonatal therapy is only available for severe cases of infection due to safety concerns. We showed that valnoctamide (VCD), a mood stabilizer, effectively blocks CMV. Here we investigate CMV infection in the developing brain and auditory system of newborn mice and the potential benefits of VCD treatment on neurontogeny and hearing outcomes.

METHODS

Pups inoculated intraperitoneally (i.p.) with CMV (750 PFU) on the day of birth received VCD ($n = 8$) or vehicle (VEH, $n = 8$) daily (1.4 mg/ml) from p1 to p21. Media-inoculated animals served as controls ($n = 8$). Newborn mice were chosen because their brain development parallels that of a human fetus during the early 2nd trimester, critical period of neurontogeny where CMV can cause substantive dysfunction. CMV load and distribution in the brain and the cochlea were assessed by qPCR and histochemistry at multiple time-points post-infection. Ontogeny of nervous system was assessed by means of brain-to-body weight ratio in p30 mice, whereas hearing was investigated using auditory brainstem responses in 7-week old animals. Evaluations were performed blindly with respect to the experimental group. Statistical significance was determined by mixed-model ANOVA with

Repeated Measures and Newman Keuls' post hoc test.

RESULTS

After i.p. inoculation, CMV was detected in the brain and the cochlea as early as 2 dpi, with viral load peaking at p8-p12 and p16-p21, respectively. Infection persisted longer in the inner ear than centrally, with viral particles still measurable at p50 in the cochlea but not in the brain. CMV-infected cells were identified in multiple regions of the brain, including the cortex, corpus callosum, hippocampus, choroid plexus, cerebellum, and meninges, and of the inner ear, including the stria vascularis, the temporal bone, and the cochlea. CMV+ cells were also recognized in central areas of the auditory system, such as the cochlear nuclei, the inferior colliculus, and the auditory cortex. Infected mice showed deficient brain growth and increased hearing thresholds at multiple frequency tone stimuli. VCD treatment substantially reduced CMV load in the brain and the cochlea (**Fig. 1**), ameliorating brain and hearing development with restoration of brain-to-body weight ratio values and auditory responses similar to uninfected controls.

CONCLUSIONS

VCD effectively blocks CMV infection in the developing brain and auditory system, and rescues virally induced aberrant neurontogeny and hearing impairment. VCD has already been clinically used for treating neuropsychiatric disorders and lacks teratogenic activity. Thus, it may merit consideration as a novel therapeutic approach in CMV-mediated brain damage and deafness during early development.

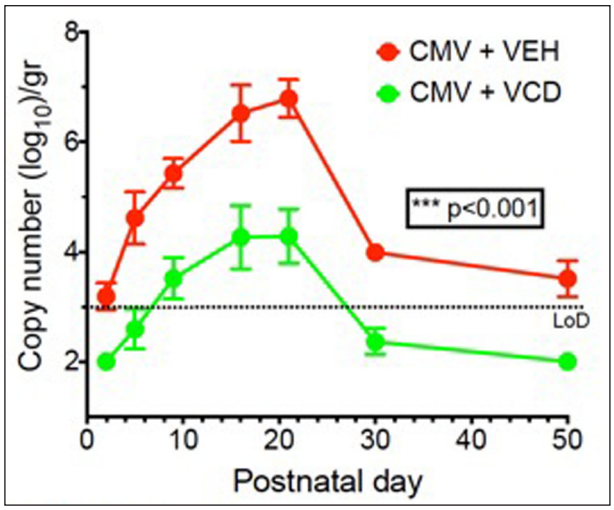

Figure 1 (ABS 3). Valnoctamide (VCD) suppresses cytomegalovirus (CMV) load in the cochlea.
CMV: cytomegalovirus; VEH: vehicle; VCD: valnoctamide; LoD: limit of detection.

ABS 4

ZIKA TESTING IN PREGNANT AND PREGNANCY PLANNING WOMEN

G. Liuzzi, C. Castilletti E. Nicastri, F. Vairo, A. Corpolongo E. Lalle, M. Iannetta, L. Bordi, L. Scorzolini, F. Carletti, S. Quartu, F. Colavita, M.R. Capobianchi, G. Ippolito

National Institute for Infectious Diseases INMI "Lazzaro Spallanzani", IRCCS, Rome, Italy

INTRODUCTION

The increase of case reports of microcephaly and other brain malformations and disorders in babies born from women who were infected with Zika virus (ZIKV) during pregnancy has prompted an increase in demand for laboratory testing ZIKV infection in the last two years. According to the Ministry of Health recommendation, in Italy testing for ZIKV infection is currently recommended for all pregnant women with history of travel in an ongoing transmission area during the current pregnancy whether symptomatic or not. ZIKV test is also recommended to all exposed partners of pregnant women. No recommendation has been issued regarding couples planning pregnancies. Objective: to describe the expanded ZIKV testing strategy in couples returning from areas with ongoing ZIKV transmission.

METHODS

Since February 2016, INMI "L. Spallanzani" has implemented a testing algorithm that includes testing of all partners of pregnant women or with a planned pregnancy. The following information were collected: symptoms, date of onset, duration of symptoms, contact with known ZIKV cases; comprehensive travel history (dates, place, duration of visit); and vaccination history especially that associated with vaccination for flaviviruses including yellow fever.

RESULTS

From February 2, 2016 to December 31, 2017, 253 women with ongoing or planned pregnancy, 144 (56.9%) partners were counseled and tested for ZIKV. Despite no ZIKV infection in women was detected during the acute phase of ZIKV epidemic curve, 2 pregnant women were found ZIKV positive during the last four months of 2017, one of them was asymptomatic. Moreover, 4 partners were ZIKV positive by PCR and serology. Two of them reported unspecific symptoms and one was without symptoms.

CONCLUSIONS

Our testing strategy allowed to detect the diagnosis of two ZIKV positive pregnant women, and two additional cases of ZIKV infection which would have been missed due to absence or mildness of symptoms highlighting the important role of partner testing in order to prevent a possible ZIKV sexually transmitted infection. The detection of the two ZIKV positive pregnant woman in a period of low circulation of the virus, compared to the levels recorded in 2016, underlines the importance of not lowering the attention ending the surveillance of ZIKV infection of pregnant women. Moreover, as with other sexual transmitted infectious diseases, family planning healthcare services in areas with no ongoing transmission should evaluate the inclusion of ZIKV epidemiological and virological investigation in women and their partners with history of travel in areas with ongoing transmission.

ABS 5

MEASLES IS AGAIN A PROBLEM

C.I. Palermo[1], C.M. Costanzo[2], R. Russo[1,2], M. Di Franco[2], G. Scalia[1,2]

[1]Clinical Virology Unit, A.O.U. "Policlinico Vittorio Emanuele", P.O. "G. Rodolico", Catania, Italy

[2]Department of Bio-Medical Sciences, University of Catania, Catania, Italy

INTRODUCTION

Measles is a contagious disease caused by the measles virus (MV) and is one of the main causes of childhood mortality worldwide. Measles is prevented through vaccination and much progress has been made to increase global vaccination coverage to reduce its incidence. In Italy, despite vaccination, outbreaks of measles still occur. According to the National Plan for measles elimination, one strategy was the achievement of more than 95% coverage by two different doses; the vaccination of women of childbearing age and susceptible populations is also an essential objective. In the present study, the incidence of measles in different age groups and the occurrence of new cases diagnosed through molecular findings were evaluated.

MATERIAL AND METHODS

Six hundred thirty-four subjects, stratified by age into groups (1 to 6), were enrolled in this study during 2017. IgG and IgM were detected using a commercial kit and the detection of viral nucleic acid was carried out by Realtime PCR using a commercial kit (Fast-track Diagnostics, FTD Measles) in 87 patients, who were hospitalized for measles in different hospitals of Western Sicily. In addition, in the study two babies with measles-related sequelae were considered; they were born to women with measles infection acquired in the last trimester of pregnancy.

RESULTS

The seroprevalence was 93.4%. Data stratified by age groups showed that the younger age groups (1 to 4) were characterized by a lower seroprevalence ranging from 60.9% to 89.8% with respect to the other age groups (5 to 6) (**Tab. 1**). The measles RNA was detected in 22 out of the 87 patients screened (50%), the higher percentage was detected in the younger age group (0-1 years) (**Tab. 2**). In relation to the two newborns, whose mothers acquired the infection in pregnancy, almost all samples analyzed both by molecular and serological methods, confirmed congenital infection. One of the two newborns showed measles-related signs and symptoms at birth (**Tab. 3**).

CONCLUSIONS

The analysis of our data suggests the high risk of newborns due to measles infection. Indeed, the low seroprevalence rate detected in the groups of younger subjects (from 2 to 4) could lead to a higher circulation of measles among young adults. This

Table 1 (ABS 5). Seroprevalence stratified in age groups.

Age groups	sex F (M)	Ab IgG + (%)	Ab IgG - (%)	Ab IgM + (%)	Ab IgM - (%)	Total
0-1 years (1)	10 (13)	14 (60.9)	9 (39.1)	9 (39.1)	14 (60.9)	23
2-6 years (2)	13 (16)	22 (75.9)	7 (24.1)	4 (13.8)	25 (86.2)	29
7-18 years (3)	16 (22)	30 (78.9)	8 (21.1)	5 (13.1)	33 (86.9)	38
19-30 years (4)	53 (16)	62 (89.8)	7 (12.3)	1 (1.44)	68 (98.5)	69
31-50 years (5)	141 (105)	235 (95.5)	11 (4.47)	10 (4.06)	236 (95.9)	246
> 50 years (6)	131 (98)	228 (99.7)	1 (0.44)	1 (0.44)	228 (99.5)	229

Ab: antibodies; N.D.: not done.

Table 2 (ABS 5). Positive cases stratified in age groups.

Age groups	sex F (M)	PCR POS (%)	PCR NEG (%)	Total
0-1 years (1)	5 (3)	4 (50)	4 (50)	8
2-6 years (2)	7 (1)	3 (37.5)	5 (62.5)	8
7-18 years (3)	8 (5)	2 (15.4)	11 (84.6)	13
19-30 years (4)	14 (8)	7 (31.8)	15 (68.1)	22
31-50 years (5)	13 (14)	8 (29.6)	19 (70.4)	27
> 50 years (6)	4 (5)	0	9 (100)	9

PCR: polymerase chain reaction; Pos: positive; Neg: negative.

Table 3 (ABS 5). Hematological and virological findings of two newborns with primary infection of measles virus.

Patient	Age	Hematological findings	Virological findings					Signs and symptoms	Treatment	Hospitalization
			MV Molecular test			MV sierological test				
			PCR			Ab IgG	Ab IgM			
			Urine	Serum	Swab					
R.A.	2 days	Mild hypoglycemia	Neg	Neg	Pos	Pos	Pos	Mild thickening lung Coryza	IVIG Antibiotics Lactic ferments Multivitamins	6 days
P.M.	13 days	Normal	Pos	Pos	Pos	Pos	Pos	Fever Macopapular skin rash Dyspnea Bronchopneumonia	IVIG (three different cycles) Antibiotics Lactic ferments Multivitamins	14 days

MV: measles; PCR: polymerase chain reaction; Ab: antibodies; Neg: negative; Pos: positive; IVIG: intravenous immunoglobulin.

situation causes primary infection also in pregnant women with a high risk for the newborn and also for all babies under one year of age, who are more susceptible. The cases of congenital infection that we reported, even if the babies developed well, are the clear demonstration that urgent efforts are needed to increase global coverage through advocacy, education, and the strengthening of routine immunization systems.

ABS 6

OUTCOMES ASSOCIATED WITH FETAL PARVOVIRUS B19 INFECTION: A SYSTEMATIC REVIEW AND META-ANALYSIS

D. Buca[1], F. Bascietto[1], M. Liberati[1], D. Murgano[1], A. Iacovelli[1], M.E. Flacco[2], L. Manzoli[3], A. Familiari[4], G. Scambia[5], F. D'Antonio[6,7]

[1]*Department of Obstetrics and Gynaecology, University of Chieti, Chieti, Italy*

[2]*Local Health Unit of Pescara, Pescara, Italy*

[3]*Department of Medical Sciences, University of Ferrara, Ferrara, Italy*

[4]*Department of Obstetrics and Gynecology, Catholic University of the Sacred Heart, Rome, Italy*

[6]*Women's Health and Perinatology Research Group, Department of Clinical Medicine, Faculty of Health Sciences, UiT – The Arctic University of Norway, Tromsø, Norway*

[7]*Department of Obstetrics and Gynecology, University Hospital of Northern Norway, Tromsø, Norway*

INTRODUCTION

Approximately 50% to 75% of women of reproductive age have developed immunity to parvovirus B19. Seronegative pregnant women, exposed to the virus, can transmit the infection to the fetuses in approximately 17% to 33% of cases. The majority of fetuses affected have a spontaneous resolution of the infection. Despite this, several complications such as miscarriage and stillbirth may potentially occur. Fetal PB19 infection is among the most common cause of non-immune fetal hydrops, which carries a high risk of perinatal mortality and morbidity. Long term sequelae of PB19 infection such as cardiomyopathies, hepatic failure and abnormal neurodevelopmental outcome have been reported.

The aim of this systematic review was to elucidate the outcome of fetuses affected by congenital PB19 infection.

METHODS

The outcomes observed were: intra-uterine death (IUD), neonatal death (NND), overall death, including either IUD and NND, spontaneous resolution of hydrops or fetal anemia, need for intrauterine transfusion (IUT), resolution of hydrops or anemia after transfusion, IUD following transfusion, abnormal brain scan after birth, abnormal neurodevelopmental outcome. All the observed outcomes were reported in fetuses presenting and in those not presenting signs of hydrops on ultrasound. Meta-analyses of proportions and meta-analyses using individual data random-effect logistic regression were used to analyze the data.

RESULTS

Thirty-six studies (599 fetuses affected by PB19 infection). The overall risk of death in fetuses affected by congenital PB19 was higher in fetuses with hydrops (OR: 4.2, 95% CI 1.6-11.0). IUD occurred in 22.4% (95% CI 14.0-31.9) of fetuses affected by hydrops and in 4.4% (95% CI 1.1-9.6) of those unaffected (OR: 3.60, 95% CI 1.3-10.4), while the corresponding figures for TOP were 2.9% (95% CI 0.0-9.3) and 3.0% (0.7-6.7). Spontaneous resolution of the infection occurred in 0.2% (95% CI 0.0-2.6) of cases with and in 54.8% (95% CI 19.4-88.3) of cases without hydrops. Resolution of the infection after IUT occurred in 57.7% (95% CI 46.8-68.2) of hydropic and in 100% (95% CI 45.5-100) of non-hydropic fetuses. The risk of IUD after IUT was higher in fetuses affected compared to those not affected by hydrops. Finally, the prevalence of abnormal brain imaging was 9.8% (95% CI 2.5-21.0) in fetuses affected and 0.0% (95% CI 0.0-0.0) in those not affected by hydrops, while the corresponding figures for abnormal neurodevelopmental outcome were 9.5% (95% CI 2.6-20.2) and 0.0% (95% 0.0-0.7).

CONCLUSIONS

Hydrops is the main determinant of mortality and adverse perinatal outcome in fetuses affected by PB19 infection. The overall risk of death and IUD was higher in fetuses affected by hydrops, while there was no difference in the occurrence of NND between the two groups. Spontaneous resolution occurred in about half of cases not presenting with hydrops and in almost none of the cases with hydrops. Perinatal outcome in non-hydropic fetuses is generally favorable.

ABS 7

HIV INFECTION AMONG MIGRANT PEOPLE: A SINGLE CENTER EXPERIENCE

A. Giudicepietro[1], L. Sarno[1], G.M. Maruotti[1], L.L. Mazzarelli[1], M.C. De Angelis[1], A. Sirico[1], F. Zullo[1], P. Martinelli[1], M. Sansone[2]

[1]Department of Neuroscience, Reproductive Sciences and Dentistry, School of Medicine, University of Naples Federico II, Naples, Italy

[2]Center for Infectious Diseases and AIDS in Obstetrics and Gynecology, University of Naples Federico II, Naples, Italy

INTRODUCTION

According to ISTAT, migrant people resident in Campania at the beginning of 2017 are 243,694 and they represent 4.2% of the resident population. 51.55% of these are women. They carry a high risk for sexually transmitted disease (STD), above all HIV infection. During pregnancy it is essential to offer the screening for HIV infection as early as possible, in order to start antiretroviral therapy as soon and reduce the risk of vertical transmission. The aim of this study was to evaluate the percentage of HIV infection among migrant people and the difficulty for migrant pregnancy women in accessing HIV test and antiretroviral therapy and to report the pregnancy outcome.

METHODS

This is a retrospective observational cohort study. We defined a migrant as a woman who delivered in a country different from her country of birth. A descriptive analysis was conducted using SPSS® 20.0. Data are reported as number (percentage) for categorical variables and mean ± standard error for continuous variables.

RESULTS

We considered a total of 86 migrant pregnant HIV positive women, including 14 (16.2%) from Europe, 68 (79%) from Africa and 4 (4.65%) from South America. 67 migrant women (77.9%) had a diagnosis of HIV infection during pregnancy, and of these 48 (55.8%) during third trimester. 9 (10.4%) pregnant women presenting CD4 < 500 cells/uL and a detectable HIV-RNA at delivery. 15 (17.4%) didn't take antiretroviral therapy during pregnancy. The reported causes of HIV infection were prostitution in 32 (37.2%), infected partner in 19 (22%), injection drugs in 1 (1.1%) and sexual violence in 11 (12.7%). We could not define a known cause in 23 (26.7%) of cases.

Average age at delivery was 31 ± 3 years old. Gestational age at delivery was 39 ± 4 weeks. Twenty-nine (33.7%) women delivery by cesarean section, 15 of these for the viraemia at time of delivery, 3 for fetal distress, 5 for premature rupture of membranes, 1 for placenta praevia, 5 for previous cesarean section. 17 (19.7%) women had a vaginal delivery, 12 (13.92%) terminated the pregnancy (10 for voluntary termination and 2 due to a fetal malformations), 4 (4.65%) had a spontaneous abortion, 2 (2.32%) gave a therapeutic abortion for malformations and 1 (1.16%) had an intrauterine fetal demise.

CONCLUSIONS

In our cohort, 55.8% of migrant pregnant women performed HIV test late in pregnancy but the percentage of women that did not undergo antiretroviral therapy during pregnancy and that performed Caesarean section with a detectable viraemia is fortunately low (17.44%).

ABS 8

FETAL PARVOVIRUS B19 INFECTION

V. Giardini, S. Lazzarin, A. Martinelli, S. Cozzolino, M. Verderio, P. Vergani

Department of Obstetrics and Gynecology, University of Milano Bicocca, San Gerardo Hospital, FMBBM – Monza, Italy

INTRODUCTION

Parvovirus B19 is a widespread virus, which infects 1-5% of pregnant women. Maternal symptoms may be non-specific and therefore delay early diagnosis. In the fetus however Parvovirus B19 can cause anemia, non-immune hydrops fetalis, and death. Transplacental transmission rate ranges between 30% and 50% and it is higher in the first and second trimester. In most cases, fetal anemia secondary to Parvovirus is transient and an intrauterine transfusion can support the fetus during the aplastic crisis. However, the development of hydrops represents a negative prognostic sign, associated with high mortality. For this reason, fetal blood transfusion is recommended, unless the pregnancy is at an advanced gestational age, and risks associated with delivery are considered to be

Table 1 (ABS 8). Main characteristics of the described cases.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Parity	3	2	1	2	1	1
GA at diagnosis	23.1 gw	20.0 gw	15.3 gw	26.6 gw	22.0 gw	22.2 gw
Maternal sign and symptoms	• Lower limb edema • 15 kg weight gain in 2 weeks' time (mirror syndrome)	• Fever • Chest pain • Dyspnea	• Rush • Elevated liver enzymes	• Fever • Diarrhea • Elevated liver enzymes	-	-
Fetal ultrasound abnormalities	• Hydrops • Hyperplacentosis • Polyhydramnios (26.1 gw)	• Ascites • Hydrops (20.4 gw)	Ascites (19.3 gw)	• Ascites • Hyperplacentosis (27.2 gw) • Polyhydramnios (36 gw)	• Ascites • Hydrops • Suspected cardiac abnormalities (23.4 gw)	Hydrops (22.2 gw)
Invasive prenatal diagnosis	Amniocentesis	Cordocentesis	Cordocentesis	Amniocentesis	Amniocentesis	Fetal infection demonstrated at birth
Intrauterine transfusion (GA)	YES (24 and 25.1 gw)	YES (20.5 gw)	YES (19.3 gw)	NO	NO	NO
Fetal condition normalized	YES	YES	NO	YES	NO	YES
Pregnancy outcome	pPROM at 33.2 gw, cesarean section for breech presentation	Spontaneous vaginal delivery at 39.4 gw	Fetal death at 19.5 gw – autopsy shows diffuse signs of infection	• Cholestasis • Induced labor, vaginal delivery at 37.1 gw	Fetal death at 23.6 gw – autopsy shows diffuse signs of infection	pPROM at 36.6 gw, spontaneous vaginal delivery
Birth weight	SGA	SGA	AGA	AGA	AGA	AGA
Infant outcome: neurological outcome	Regular	Regular	-	Regular	-	Regular

GA: gestational age; Gw: gestational weeks; PV: Parvovirus; pPROM: preterm premature rupture of membrane; AGA: appropriate for gestational age; SGA: small for gestational age.

less than those associated with the procedure. The aim of this study is to investigate the prevalence of fetal complications following maternal Parvovirus B19 infection at various gestational ages, and to describe obstetrical outcomes.

METHODS

A retrospective cohort study of Parvovirus fetal infection cases was performed at the Obstetrics and Gynecology Unit of San Gerardo Hospital, Monza, Italy from January 2010 to December 2017. Cases were identified after suggestive ultrasound findings.

RESULTS

During the study period, six cases of fetal Parvovirus B19 infection were identified (**Tab. 1**). All women were Caucasian and had other children at home. The average time at diagnosis was 21 weeks (range 15 weeks – 26 weeks and 6 days). Maternal symptoms were non-specific: fever, diarrhea, and rush; one patient presented with mirror syndrome. All fetuses showed signs of anemia at Doppler examination of middle cerebral artery (MCA) and effusions: two presented with hydrops, four with ascites (two of them subsequently developed hydrops). Polyhydramnios and hyperplacentosis were diagnosed in two cases. Viral DNA was identified by polymerase chain reaction of amniotic fluid or fetal blood in five cases. In one case invasive diagnosis was not performed and fetal infection was demonstrated at birth. Three cases received intrauterine transfusions. Two cases out of three had a progressive regression of effusions. Fetal death occurred in two occasions, the first one 2 days after an intrauterine transfusion. In this circumstance, the maternal infection occurred before the 20th gestational week. Pediatric follow-ups on all the living children show a normal neurological outcome.

CONCLUSIONS

Our data confirm that fetal hydrops and ascites are the most common ultrasound signs of fetal Parvovirus B19 infection. The diagnosis should be made on the basis of viral DNA identification in the amniotic fluid or fetal blood, in combination with maternal serologic assays for Parvovirus B19-specific IgG, IgM and fetal MCA Doppler evaluation for anemia. Timely executed intrauterine transfusion of severely anemic fetuses represents an opportunity to reduce the risk of fetal death.

ABS 9

MASTITIS AND BREAST ABSCESSES IN BREASTFEEDING: MILK CULTURE, ANTIBIOTIC TREATMENT AND FOLLOW UP

M.I. Mazzocco[1], P. Pileri[1], S.G. Rimoldi[2], A. Sartani[3], F. Romeri[2], S. Mancini[3], M.R. Gismondo[2], I. Cetin[1]

[1]Unit of Obstetrics and Gynecology, ASST Fatebenefratelli Sacco, University of Milan, Milan, Italy

[2]Laboratory of Clinical Microbiology, Virology and Diagnostics of Bioemergencies, ASST Fatebenefratelli Sacco, University of Milan, Milan, Italy

[3]Departmental Breast Unit, ASST Fatebenefratelli Sacco, University of Milan, Milan, Italy

INTRODUCTION

Breastfeeding represents a unique opportunity for improving both infant and maternal health. Lactational mastitis has been estimated to occur in 2-10% of breastfeeding women and 3% of women with mastitis develop a lactational breast abscess. Most episodes of lactational mastitis are caused by *S. aureus*. Recently, methicillin-resistant *S. aureus* (MRSA) has become an important pathogen in cases of lactational mastitis, mostly in abscesses. The aim of our study was to evaluate the pathogens implicated in lactational pathologies and responses to antibiotic therapy. Secondary aims were to follow up the breastfeeding and maternal-neonatal outcomes.

METHODS

In this observational study we investigated 47 women with lactational pathologies with a multidisciplinary working approach. Milk and breast abscess samples were collected from 22 cases of mastitis (group A) and 25 cases of abscesses (group B). Samples were introduced into blood culture bottles and cultured on selective agar plates if positive. Most women were primiparous (90% and 72% respectively) and all had delivered a term newborn with normal birth weight.

RESULTS

Breastfeeding was exclusive during the onset of lactational pathologies in 81% of group A and 64% of group B, while in 2 breast abscess cases breastfeeding was recently stopped. MRSA was detected in 9 mastitis and 19 abscesses, methicillin-susceptible *S. aureus* was detected in 2 and 3 samples respectively, other pathogens were *Streptococcus spp.* and *Enterococcus spp.* The first line therapy was penicillin in the majority of cases (14 and 15, respectively), but it was modified according to antibiogram in 64% of mastitis and 95% of abscesses. Based to results of antibiogram, clindamycin was the most used antibiotic (6/14 and 13/15, respectively). Breastfeeding during therapy was exclusive in 11

mastitis and in 10 abscesses, complementary in 6 and 3 cases respectively; 8 women decided to stop breastfeeding (2 and 6, respectively), 6 of them with worsening of symptoms. No neonatal adverse effects were reported during antibiotic therapy and 1 case of maternal adverse effect was reported. Hospitalization was required in 10 cases (6 in group A, 4 in group B); breast abscesses required needle aspiration with or without ultrasound guidance in 14 cases and we collected also 4 cases of breast incision (performed in other clinics). 9 cases (3 mastitis and 6 abscesses) were lost at follow up. Breastfeeding continued until 7 neonatal months in group A and 5.5 months in group B.

CONCLUSIONS

Milk culture in mastitis is very important to choose the appropriate antibiotic therapy. The first line antibiotic therapy at diagnosis of lactational abscess is clindamycin. Needle aspiration with or without ultrasound guidance should represent the first line treatment in abscess that require drainage. A multidisciplinary follow up could improve the continuation of breastfeeding to reduce complications and to improve maternal and neonatal health.

ABS 10

ACTIVE TUBERCULOSIS CASE-FINDING AMONG PREGNANT WOMEN PRESENTING TO AN OBSTETRICS CLINIC IN NORTHERN ITALY

M. Lamanna[1], V. Giardini[1], F. Sabbatini[2], P. Faverio[3], S. Lazzarin[1], P. Vergani[1]

[1]Department of Obstetrics and Gynecology, University of Milano Bicocca, San Gerardo Hospital, FMBBM, Monza, Italy

[2]Department of Infectious Diseases, University of Milano Bicocca, San Gerardo Hospital, Monza, Italy

[3]Department of Respiratory Medicine, University of Milano Bicocca, San Gerardo Hospital, Monza, Italy

INTRODUCTION

According to the World Health Organization, Tuberculosis (TB) affects more than 2 billion people worldwide. Italy is a low-endemic country with an annual incidence of 6.7 cases per 100,000 inhabitants, especially immigrants. TB is also an important cause of maternal mortality worldwide. In low-endemic countries, like Italy, the latest English Maternal Mortality Report has recorded an increase in deaths due to a lower degree of clinical suspicion, especially in immigrants, and poor knowledge of the pathophysiology. Pregnancy represents the first access to the health system for immigrants from high-endemic countries. During pregnancy, TB is associated with poor outcomes. The clinical diagnosis of TB can occur only in case of active disease, because latent TB cases are asymptomatic. However, the diagnostic process may become more complicated in pregnant women because of systemic nonspecific symptoms. The aim of our study is to investigate the prevalence of active TB in a cohort of pregnant and postpartum women followed up at San Gerardo Hospital, Monza, Italy and to describe obstetrics outcome.

METHODS

A retrospective cohort study of active TB cases was performed from January 2010 to January 2018.

RESULTS

During the study period, five cases of active TB (**Tab. 1**) were identified: all women came from countries with a high incidence of TB. In three patients the TB diagnosis was made during pregnancy and in one case during the postpartum period. The disease onset was in two cases with chest pain, in one case with fever and cachexia, and in two cases with low-grade fever and cough. Two of them had a history of previous familiar cases of TB. There were no cases of HIV positivity. One patient (number 4 – **Tab. 1**) showed a miliary TB with myopericarditis. TB infection had a negative impact on pregnancy and patient's outcomes including maternal cachexia, preterm rupture of the amniochorionic membranes and preterm delivery, labor induction for malaise, pneumonia with pleuritis and myopericarditis. Furthermore, the late diagnosis of these four TB cases led to epidemiological issues, with the need to screen and start TB prophylaxis in 93 women, 95 newborns and 26 health workers (midwives, socio-health workers, physicians) because of the non-application of respiratory precaution measures due to the underestimation of the diagnosis.

CONCLUSIONS

Our data confirm that lack of awareness/clinical suspicion is a barrier to TB diagnosis in low-burden countries and may lead to poor clinical outcomes in pregnant women. The main challenge in controlling TB infection is the early diagnosis of latent TB in patients at high risk of developing active TB and the timely treatment of active TB. Maternal care services could be an opportunity to improve case detection, especially among immigrants.

Table 1 (ABS 10). Main characteristics of the described cases.

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Age (years) – parity	29 – G5P2	21 – G1	32 – G3P2	23 – G1	30 – G3P2
Ethnicity	Caucasian	Hispanic	Arab	African	African
Country of origin	Romania	Peru	Pakistan	Somalia	Congo
Emigration to Italy in last 5 years	Yes	No	Yes	Yes	No
Familiar or personal history of TB	Unknown	Unknown	Yes (familiar)	Yes (familiar)	Unknown
Onset symptoms	Chest pain	Persistent chest pain	• Postpartum fever • Weight loss: cachexia	• Asthenia • Profuse sweating • Low grade fever in the last month • Dry cough • Weight loss	• Fever in the last 2 days • Persistent cough in the last 2 months
GA at diagnosis	32 weeks	32 weeks and 4 days	3 days after delivery	27 weeks and 4 days	40 weeks and 3 days
Pregnancy outcome	Vaginal delivery at 35 weeks and 5 days after induction for pPROM	• Labor induction to start antitubercular therapy at 37 weeks and 2 days • Operative vaginal delivery (vacuum extraction) for stopping progression	Vaginal delivery at 37 weeks and 3 days after induction for expired general condition	Unknown	Spontaneous vaginal delivery at 40 weeks and 4 days
Infant outcome	Healthy – AGA	Healthy – AGA	Healthy – AGA	Unknown	Healthy – SGA
Drugs-resistance	TB – Rifampicin resistant	No	TB – Isoniazid resistant	No	No

GA: gestational age; AGA: birth weight appropriate for gestational age; SGA: birth weight small for gestational age.

ABS 11

LISTERIOSIS AND PREGNANCY: RESULTS FROM AN ITALIAN PILOT STUDY

L. Pucci[1], M. Massacesi[2], M. De Santi[3], G. Brandi[3]

[1]Diatheva s.r.l., Sant'Anna di Cartoceto (PU), Italy

[2]Department of Obstetrics and Gynaecology, Principe di Piemonte Hospital, Senigallia (AN), Italy

[3]Biomolecular Sciences Department, Toxicological Hygiene and Environmental Sciences Unit, University of Urbino "Carlo Bo", Urbino, Italy

INTRODUCTION

Listeriosis is a rare infection affecting primarily pregnant women, elderly and individuals with a weakened immune system and is caused by the ubiquitous bacterium *L. monocytogenes* (LM). Infection during pregnancy can cause severe consequences especially for the fetus, leading to sepsis, premature delivery, stillbirth and abortion. A pilot observational study has been conducted in order to establish the prevalence of seroconversion of specific antibodies against LM in a population of pregnant women from Senigallia (Italy), who have attended the Principe di Piemonte Hospital between December 2016 and September 2017. Moreover, correlations between the presence of LM-specific antibodies and women's health status and habits have been sought.

METHODS

Sixty pregnant women were screened for the prevalence of antibodies against listeriolysin O, a specific toxin produced by LM, which is recognized as the major target of the host immune response using a commercial ELISA assay. Women were interviewed twice during their pregnancy. Information was obtained regarding their personal habits, gynecological history, general anamnesis and family history of abortion events. Further information on delivery was finally collected. Principal Component Analysis (PCA) was used to define relations between women showing LM-specific antibodies and the information obtained from the questionnaire (SPSS® software).

RESULTS

The prevalence of LM-specific IgG antibodies was found as 18% (95% CI, 8.2-27.7%), corresponding to 11 women. Although listeriosis has not been confirmed in any of them, 4 women

received antibiotic therapy. PCA revealed that positive women reported incidents of fever and/or intestinal pains during pregnancy. Particularly, 45.4% presented intestinal pains and 27.3% fever with vomit (12.1% and 18% in negative women, respectively). No significant correlation with the presence of LM-specific antibodies was observed in women with a previous abortion or with abortion cases in their families, while a slight association with processed food and soft cheese consumption was found.

CONCLUSIONS

Listeriosis may be very serious during pregnancy, but an early maternal diagnosis and treatment may reduce the risk of transplacental transmission. A timely diagnosis can only be achieved with serological screening, even though it is not possible to distinguish between current or prior infection. The detection of LM-specific IgG cannot be considered a clear signal of acute listeriosis, because antibodies could have been formed during a past infection. Our results show that 18% of positivity rate can be expected. PCA identified variables related to the presence of LM-specific antibodies that could be useful to clinicians in interpreting the serological results. Findings from this pilot study should be used to design a wider study focused on the prevalence of LM-specific antibodies in pregnant women, which could lead to significant clinical implications.

ABS 12

INCIDENCE OF TOXOPLASMOSIS IN PREGNANCY: A POPULATION-BASED STUDY

V. Donadono, L. Sarno, A. Giudicepietro, L.L. Mazzarelli, G. Saccone, S. Tagliaferri, A. Sirico, G. Esposito, G.M. Maruotti, F. Zullo, P. Martinelli

Department of Neuroscience, Reproductive Sciences and Dentistry, School of Medicine, University of Naples Federico II, Naples, Italy

INTRODUCTION

Maternal primary infection may cause congenital toxoplasmosis when acquired during pregnancy, because of the transplacental passage of the parasite. The prevalence of the infection is estimated to be as low as 1.5 cases per 1,000 live births worldwide, but it changes over countries. Therefore, the effectiveness of a policy of universal screening for toxoplasmosis infection during pregnancy is still subject of debate. The objective of this study was to evaluate the incidence of toxoplasmosis seroconversion during pregnancy in a population-based cohort study.

METHODS

This is a population-based cohort study of women counselled for suspected toxoplasmosis infection during pregnancy between January 2000 and December 2012 in Campania. In Italy, all pregnant women are screened for toxoplasmosis during pregnancy with IgG and IgM antibody at the first visit and, if both negative, every month until delivery. Women with positive IgM antibody are referred for counselling and further evaluation at University of Naples Federico II. At the first counselling visit, women underwent samples for IgG and IgM antibodies and IgG avidity at the local reference laboratory. Women were classified into three groups: 1) seroconversion if one or more samples taken in pregnancy with IgG-/IgM- were followed by another sample with IgG+/IgM+, 2) suspected infection if IgG+/IgM+ at first sample taken in pregnancy (but women with high avidity before 12 weeks were excluded from this group), and 3) no infection in pregnancy in all other cases.

RESULTS

Between January 2000 and December 2012 there were 761,966 deliveries in Campania. Of them 1,217 (0.16%) were referred to University of Naples for suspected toxoplasmosis during pregnancy. After confirmed sample in our reference laboratory, 176 (14.5%) women were classified as seroconversion, 407 (33.4%) were classified as suspected infection and 634 (52.1%) were considered not infected in pregnancy. 52.1% (634/1,217) of women referred to our centre for suspected infection were therefore considered as not infected in pregnancy after confirmatory test at reference laboratory.

CONCLUSIONS

50% of women referred for suspected toxoplasmosis in pregnancy were not actually infected in pregnancy. Incidence of toxoplasmosis seroconversion in pregnancy in Campania has been demonstrated to be as low as 0.02%.

ABS 13

PARVOVIRUS B19 INFECTION IN PREGNANCY

V. Frisina, G. Masuelli, T. Todros

Gynecology and Obstetrics Unit, Surgical Sciences Department, University of Turin, Turin, Italy

INTRODUCTION

Parvovirus B19 infection affects 1.5% of susceptible pregnant women of which 25-30% with asymptomatic infections. In the majority of cases symptoms are mild such as erythema to cheeks, neck, legs and arms; infection can cause severe fetal anemia as a result of fetal erythroid progenitor cells infection, high output cardiac failure and non-immune hydrops fetalis. Maternal transient aplastic crisis was reported in subjects with reduced average life of erythrocytes. We analyzed our data to report features of severe foetal and maternal infections.

METHODS

All pregnant women with diagnosis of recent Parvovirus B19 infection managed at Sant'Anna Hospital (from 01/2016 to 12/2017) were included.

RESULTS

27 pregnant women were diagnosed with recent Parvovirus infection. 40% had an infection at the beginning of pregnancy, 52% during II trimester. 26 women delivered at term with healthy babies; 1 pregnancy is still ongoing. 85% had no maternal or foetal complications.

2 cases had severe maternal illness.

First case

31-year-old pregnant woman, para 1, admitted at 17 weeks with fever, leukopenia and dyspnea; she had aplastic crisis and developed hemodynamic instability. Hematological disorder improved with intravenous human parvovirus specific IgA; she had persistent anemia during pregnancy. No ultrasound sign of fetal infection. She delivered at term.

Second case

39-year-old, para 2, at 24 weeks of gestational age. Outbreaks with nausea, vomit and neck rigidity. During hospitalization she had diagnosis of meningitis. PCR on liquor was positive for Enterovirus. No neurological residual after full recovery. No ultrasound signs of fetal infection. She delivered at term.

2 cases had ultrasound foetal signs.

Third case

30-year-old pregnant woman, para 2, admitted at 26 weeks for incidental diagnosis of ascites, pericardial effusion, tricuspid regurgitation and increase in middle cerebral artery blood flow. Intrauterine transfusion was performed at 27 weeks of pregnancy (Hb 1.8 g/dl before transfusion, Hb 6.5 g/dl after) with 25 cc of red cells; contemporary evacuating amniocentesis. PCR on ascites revealed Parvovirus > 5,000,000 copies/ml. Intrauterine transfusions and evacuating amniocentesis were performed again at 28 weeks and 29 weeks of pregnancy. She had complete resolution of ascites and normalization of middle cerebral artery blood flow. She delivered at term.

Fourth case

24-year-old pregnant woman, para 5, admitted for moderate ascites. Spontaneous resolution of ascites. Pregnancy still ongoing.

CONCLUSIONS

Despite the majority of Parvovirus infections are asymptomatic, pregnant women who are exposed or develop symptoms should be assessed for serological status. In mother with proven parvovirus B19 infection close ultrasound monitoring is recommended, in order to promptly identify hydrops and/or severe foetal anemia. Experience with intrauterine transfusion of erythrocytes can make a difference to improve foetal outcomes.

ABS 14

PRETERM PREMATURE RUPTURE OF MEMBRANES (PPROM): CAN WE OPTIMIZE OUR FIRST LINE TREATMENT BY STUDYING THE LOCAL MICROBIOTA?

A. Dall'Asta, L. Angeli, E. Roletti, T. Ghi, T. Frusca

Obstetrics and Gynecology Unit, University of Parma, Parma, Italy

INTRODUCTION

There is no consensus as regards the optimal antibiotic treatment for the prophylaxis of chorioamnionitis in women with a diagnosis of preterm premature rupture of the membranes (PPROM). The objective of this study was to evaluate whether a systematic protocol for the assessment of the urinary and vaginal microbiota can guide when selecting the optimal antibiotic prophylaxis in women diagnosed with PPROM.

METHODS

We conducted a retrospective observational study on all cases of non-iatrogenic PPROM < 34^{+0} weeks admitted at a Tertiary Unit over a three-year period, between 2013 and 2016. As per internal protocol all women with a diagnosis of PPROM were systematically submitted to vaginal and cervical swabs and urine midstream specimen for urine culture and *C. trachomatis* PCR, and conservatively managed as per International Guidelines using broad-spectrum antibiotics. Data regarding microbiological assays and antibiotic sensitivity were retrieved and analysed in order to evaluate the

incidence of PPROM associated with genitourinary infection and the local microbiota.

RESULTS

Overall, 81 patients with full microbiology assessment were included. *U. urealyticum*, either isolated or associated with *M. hominis*, was found in one third of cases (27/81) and represented the most common pathogen, followed by *Group B Streptococcus* (GBS), which accounted for 14 cases (17.3%), and *G. vaginalis* (13 cases, 16%). There was no positive specimen for *C. trachomatis.* Negative vaginal and cervical swabs and urine culture accounted for 37 out of 81 cases (45.7%). No differences were noted between PPROM occurring before 22 weeks and between 22 and 33^{+6} weeks.

CONCLUSIONS

Within our population, nearly one half of women with PPROM and full microbiology assessment showed no evidence of underlying infection, while *U. urealyticum* and GBS represented the most common pathogens. Periodical assessment of the microbiota in pregnant women at high risk of genitourinary infection may lead to changes in the choice of the first line antibiotic prophylaxis for PPROM, thus optimizing patient care.

ABS 15

PLACENTAL AND FETAL MEMBRANES INFECTION IN PREGNANCY WITH RUPTURE OF MEMBRANES. A PILOT STUDY

S. Cireddu[1], C. Gerosa[2], M. Anardu[1], F. Coghe[3], V. Fanos[4], G. Faa[2], S. Angioni[1]

[1]Division of Gynecology and Obstetrics, Department of Surgical Sciences, AOU Cagliari, University of Cagliari, Monserrato, Italy

[2]Division of Pathology, Department of Surgical Sciences, San Giovanni di Dio University Hospital, University of Cagliari, Cagliari, Italy

[3]Clinical Microbiology Lab Services, AOU Cagliari, Monserrato, Italy

[4]Neonatal Intensive Care Unit, Neonatal Pathology and Neonatal Section, Department of Surgical Sciences, University of Cagliari, Monserrato, Italy

INTRODUCTION

Placenta and membranes may be infected by bacteria from the maternal birth canal. Maternal and fetal inflammatory reactions to these microorganisms can determine important clinical outcomes. The aim of our study was to investigate placental histology and fetal membranes infections in pregnancies complicated by preterm rupture of membranes (pPROM) or rupture of membranes at term (PROM).

METHODS

This prospective study was conducted from February to September 2017 in the Division of Gynecology and Obstetrics of the University of Cagliari. 50 consecutive pregnancies with pPROM or PROM entered the study. A placental swab on amniotic membranes near the cord insertion was collected for microbiological evaluation. Placentas were sent to pathology investigation. Obstetrical and neonatal data were collected.

RESULTS

The sample included 23 patients with pPROM and 27 patients with PROM. Microbiological cultures of bacteria was obtained in 30% of pPROMs and in 26% of PROMs. Microbiological sampling was positive in 76% of cases. Chorioamnionitis was identified in 54% of cases (48% pPROMs and 59% PROMs). Chorioamnionitis was identified in 71% of patients with pPROM and positive culture. Histological signs of chorioamnionitis were also found in cases with negative microbiological cultures. Apgar scores ≤ 6 were detected in 35% of pPROMs. In 50% of these cases, chorioamnionitis was present and in 38% of cases was associated to the identification of bacteria in the membranes. In cases of neonatal infection the bacteria evidenced in the fetal membranes often correlate with neonatal microbiological investigation. Moreover, a case of arteritis and a case of funisitis were found in association of microbiological positivity of membranes and histological chorioamnionitis.

CONCLUSIONS

This study provides important preliminary results: 1) it is possible to collect microbiological samples in the fetal membranes at delivery and this analysis could be important in particular in preterm births; 2) histological evaluation of the placentas correlates strongly with microbiological evaluation of membranes. These data are of great interest because they could open a new chapter of intrapartum diagnostics in the case of pPROM and PROM. If confirmed on larger series our results would provide microbiological and histopathological data to pediatricians that could allow a targeted and personalized treatment for the newborns.