preterm delivery before 34 w.g. were 85%, 90%, 83% and 92%, respectively.

Conclusions: TVCL is a strong single screening tool of spontaneous preterm delivery before 34 w.g. in twin pregnancies that has a very good sensitivity and high negative predictive value.

EP20.04  Diagnostic indices of MCA PSV for fetal severe anemia in MCDA twin pregnancy

J. Oh1, S. Hong1, S. Lee1, C. Park1, J. Park1, J. Jun2

1Obstetrics and Gynecology, Seoul National University College of Medicine, Seoul, Republic of Korea; 2Seoul National University Hospital, Seoul, Republic of Korea

Objectives: To examine the diagnostic indices of fetal middle cerebral artery peak systolic velocity (MCA PSV) above 1.55 multiples of the median (MoM) Doppler velocimetry for the identification of fetal severe anemia in monochorionic diamniotic (MCDA) twin pregnancies.

Methods: Study population consisted of 178 MCDA twin fetuses who underwent MCA PSV Doppler velocimetry within 7 days of delivery between gestational age (GA) of 24 and 38 weeks at Seoul National University Hospital between 2005 and February 2017. Fetuses with chromosomal abnormalities, major congenital anomalies or intrauterine demise were excluded. We calculated the frequency of severe fetal anemia according to the presence of an increased fetal MCA PSV (≥1.55 MoM). Severe anemia was defined in the presence of hemoglobin concentration < 0.55 MoM in umbilical cord blood at the time of delivery.

Results: An increased MCA PSV (≥1.55 MoM) was present in 8.4% of study population and severe anemia was present in 2.2%.

Diagnostic indices of an increased MCA PSV (≥1.55 MoM) for the identification of severe anemia were as follows: sensitivity 100% (4/4), specificity 93.7% (163/14), positive predictive value (PPV) 26.7% (4/15) and negative predictive value 100% (163/163). However, PPV at GA 30 weeks or more was only 12.5%, while that at GA less than 30 weeks was 42.9%.

Conclusions: The sensitivity and specificity of an increased MCA PSV (≥1.55 MoM) for the identification of severe anemia in MCDA twin pregnancies are very high. However, PPV of that is much lower in cases with GA 30 weeks or more than in those with GA less than 30 weeks among MCDA twin pregnancies.

EP20.04: Table 1. Middle cerebral artery peak systolic velocity (MCA PSV) Doppler velocimetry in the prediction of fetal severe anemia

| MCA PSV ≥ 1.55 multiples of the median (MoM) (N=15) |
|-----------------|-----------------|-----------------|
| Gestational age at delivery (weeks) | 24 – 38 weeks | <30 weeks (n=7) | ≥30 weeks (n=8) |
| Severe anemia (n) (Hb) | 4 | 3 | 1 |
| sensitivity | 100% | 100% | 100% |
| specificity | 93.7% | 83.3% | 95.3% |
| Positive predictive value | 26.7% | 42.9% | 12.5% |
| Negative predictive value | 100% | 100% | 100% |

EP20.05  A case of twin reversed arterial perfusion (TRAP) sequence misdiagnosed as discordant twin in first trimester

J. Kim, Y. Kim

1Department of Obstetrics and Gynecology, Chonnam National University Medical School, Gwangju, Republic of Korea

A 32-year-old gravida 1, para 1 woman was referred to our hospital at 9 weeks of gestation for further evaluation of discordant twin identified by ultrasonography. The ultrasound images showed a twin monochorionic diamniotic intrauterine pregnancy (figure 1-A). Cardiac activity was rhythmic in the first fetus (pump twin) and fetal heart rate was 150 beat per minute and Crown-rump length was consistent with 9 weeks and 2 days, and no anomalies were detected. Fetal cardiac activity was not detected in the second fetus (recipient twin) and Crown-rump length was consistent with 7 weeks and 3 days. Ultrasonogram showed the placental vascular anastomosis. On Doppler USG, umbilical artery systolic/diastolic (S/D) ratio was within normal ranges in the recipient twin (figure 1-B). Under the light of these data, Twin–twin transfusion syndrome and TRAP sequence were considered in the radiologic differential diagnosis of this complicated monochorionic–diamniotic twin pregnancy. Chorionicity, presence of acardiac twin and colour Doppler USG findings were consistent with TRAP sequence. We report a case of TRAP sequence that was misdiagnosed with discordant twin in first trimester and was correctly diagnosed after advanced ultrasonography. Obstetricians should suspect TRAP sequence in monochorionic twin pregnancies in which twin fetuses would have discordancy in first trimester.

EP20.06  Initial experience of a fetal medicine service in the accomplishment of fetoscopy for the treatment of feto-fetal transfusion syndrome


Obstetrics, Federal University of São Paulo, São Paulo, Brazil

Objectives: Feto-fetal transfusion syndrome (FFST) is an exclusive complication of monochorionic twin pregnancies and occurs in about 15% of these cases due to unbalanced blood exchange between fetal circulations through placental anastomoses. Diagnosis is made by ultrasonography, based on the binomial oligo-polydramnium, and the disease is classified in stages (Quintero standardisation). It presents high perinatal morbidity and mortality. Treatment chosen was fetoscopy by laser photocoagulation of the vascular anastomoses of the chorionic plaque. The aim of this study is to present the initial experience of Federal University of São Paulo fetal medicine service in this type of procedure.

Methods: A prospective observational study was carried out. 16 and 26-week-old monochorionic diamniotic pregnancies diagnosed with FFST stages II, III, IV or V of Quintero were included. These patients were submitted to fetoscopy for laser photocoagulation of the vascular anastomoses of placental chorionic plaque (SOLOMON technique). The study was approved by the ethics committee and patients selected signed a consent form.

Results: Twenty four pregnant women with FFST underwent fetoscopy between November 2012 and October 2016. Gestational age of the procedure ranged from 16 to 26 weeks (average 20.75 weeks). Time of procedure ranged from 30 minutes to 98 minutes (average 51.9 minutes). Age of delivery ranged from 22 to 37 weeks.
Methods: During 2005-2017, we managed 649 monochorionic life-threatening status. In 4 cases (16.7%) bleeding occurred during the laser. In 21 cases (87.5%) there was at least one live fetus until delivery; and in 45.8% (11) of the pregnancies there were two fetuses alive until delivery. In 4 cases (16.7%) there was FSTF recurrence and in 1 case (4.2%) we observed development of the anemia-polythemia sequence.

Conclusions: Development of new centres specialised in fetoscopy is very important. Our results approximate the data described in the literature.

EP20.07
111 TTTS cases treated in Talca and Santiago with classical selective technique: towards a Chilean perinatal network
M. Yamamoto1, J. Becker2, M. Araneda2, F. De Martini2, S. Illanes1, D. Pedraza3, J. Astudillo3, H. Figueroa3
1Department of Obstetrics and Gynecology, School of Medicine, Universidad de los Andes, Santiago, Chile; 2Department of Obstetrics and Gynecology, Hospital de Talca, Talca, Chile; 3Maternal Fetal Medicine, Clínica Alemana y Hospital Padre Hurtado, UDD, Vitacura, Santiago, Chile

Objectives: There are no Chilean series of large series of TTTS. Two centres joined their experience to give report up to dated survival.

Methods: Retrospective study of all TTTS cases treated in Santiago and Talca. Quintero stage, placental position, GA at surgery, and survival was considered.

Results: 111 cases were available with postnatal follow-up. Mean GA at treatment was 20 weeks (range 16 to 27). There are 4 lots of follow-up. Mean GA at delivery was 30 weeks (range 18 to 40). Twelve, 43, 46 and 10 were at Quintero Stages 1 to 4. There were 45% of double survivors and 38% of single survivor. From all, 44% had anterior placenta. Patients were referred from public and private hospitals. Delivery occurred in their respective hospitals.

Conclusions: The survival rate is comparable to important series and represent the quality of care in these centres. Earlier GA, lower GA at treatment was 20 weeks (range 16 to 27). There are 4 lots of follow-up. Mean GA at delivery was 30 weeks (range 18 to 40). Twelve, 43, 46 and 10 were at Quintero Stages 1 to 4. There were 45% of double survivors and 38% of single survivor. From all, 44% had anterior placenta. Patients were referred from public and private hospitals. Delivery occurred in their respective hospitals.

EP20.08
Neurodevelopment outcome after intrauterine transfusion for monochorionic twin pregnancies focusing fetal life-threatening status
Y. Takahashi1, S. Iwagaki1, T. Shiga1,2, R. Shimaoka1,2
1Fetal-Maternal Medicine, Nagara Medical Centre, Gifu, Japan; 2Obstetrics and Gynecology, Gifu University School of Medicine, Gifu, Japan

Objectives: Long-term neurodevelopment after intrauterine transfusion (IUT) for severe anemic fetuses of monochorionic twin is not clarified yet. We analysed retrospectively focusing fetal life-threatening status.

Methods: During 2005-2017, we managed 649 monochorionic twin pregnancies including MD, MM twins and TRAP sequences. We performed fetoscopic laser surgery for TTTS and radiofrequency ablation (RFA) for TRAP sequences and IUT for severe anemia. We defined life-threatening status (LT) as bradycardia, UAREDV and low cardiac output diagnosed by weak myocardial wall motion after detecting anemia. Long term neurodevelopment was analysed and cerebral palsy (CP) and low DQ by neurodevelopment test.

Results: Twenty-six anemic twins were performed IUT. 14 one fetal spontaneous death (FSD), 10 were after laser surgery (twin anemia-polythemia; TAPS) and 2 were TRAP sequence before RFA. 3 fetal deaths and 5 deliveries before 28 weeks gestation (WG) were detected. 2 were selected palliative care due to extremely prematurity. Total survival rate was 69% (18/26). Total intact survival rate without LT status was 76% (13/17) and 92% (11/12) after 28WG delivery and was statistically significant higher compared with that of LT status (29% (2/7) P = 0.038, 29% (2/7), P = 0.009, respectively). 3CP such as 2 cases with late diagnoses (TRAP sequence and IUT over 24hrs of referring to our hospital), and 1LT case after spontaneous IFD. Fetal brain damage and death were significant low in no LT (1/17 (5.9%)) vs. LT group 4/7(57%), p=0.014. All survivals without CP showed no abnormal DQ. In LT cases, 2 intact cases were treated IUT with fetal catecholamine injection as resuscitation.

Conclusions: IUT may be an important management option for monochorionic twin fetal survival including LT status. LT status would cause neurodevelopment damage but has some possibilities of intact survival by fetal resuscitation.