ISP-22-5 Can fetal electrocardiograph find high-risk fetal mice of brain hemorrhage?

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[Objective] In clinical settings, high-risk fetuses of brain hemorrhage with cardiofetocameters is difficult. In this study, we find the high-risk murine fetus by fetal electrocardiograph (FECG) with short-term variability (STV). [Methods] Mice in Junk group were given unbalanced-nutrients (fat-rich/protein-low) while mice in Normal group were given balanced-nutrients. Both groups were challenged by 3-sets of ischemic–reperfusion. About 80% incidence rate of brain hemorrhage was observed after the 3-sets of ischemic–reperfusion in the Junk group. The ischemic–reperfusion was monitored by the FECG and ultrasound which detected the brain hemorrhage. STV at 3 conditions before the ischemic treatment to the onset of brain hemorrhage (pre–ischemia, 1st ischemia, and 1st reperfusion) was evaluated. [Results] Heart rate reduction at the 1st ischemia was recognized in the same manner in both groups. In the Normal group, STV was increased at the 1st ischemia and reduced at the 1st reperfusion. In the Junk group, STV was reduced at the pre–ischemia without obvious increase at the 1st ischemia, but increased pronouncedly at the 1st reperfusion. [Conclusion] In both groups, transient bradycardia induced by the ischemia was observed while STV showed different dynamics. STV calculated from FECG could be used to find high-risk fetal mice of brain hemorrhage.

ISP-22-6 Prenatal resolution of microcystic congenital cystic adenomatoid malformation (CCAM) : a report of two cases with different initial CVR (CCAM volume ratio)

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[Background] 17% of fetal CCAM are reported to become sonographically undetectable before birth and their related factors are microcystic type and low CVR. [Case report] Case 1: A 30-year-old woman GIPO was referred at 21 weeks of gestation with a hyperechoic lesion (CVR=0.20) in the left lower lung lobe. Without any other abnormalities, MRI confirmed this finding. Repeated ultrasound scans showed the lesion became identical with the normal left upper lobe around 30 weeks. A female baby was delivered vaginally at 36+0 weeks weighing 2568g with Apgar score 7/8. Contrast enhanced thoracic CT at 3 months old revealed no lung mass. Case 2: A 30-year-old woman G0 was consulted at 26 weeks on a highly echogenic lesion (CVR=2.30) over the left thorax with cardiac shift. MRI at 26 weeks was consistent with this finding without any other abnormalities. The lesion gradually decreased in size and the cardiac shift returned to the left through the routine sonography scans before 30 weeks. MRI at 36 weeks showed normal thorax. A cesarean section was performed for CPD at 41+4 weeks to deliver a male baby weighing 3014g with Apgar score 8/9. Plain CT on day 4 did not reveal any lung abnormalities. [Conclusion] These resolutions may be a part of normal fetal lung development, therefore careful decision-making is needed for microcystic CCAM even with CVR > 6.

ISP-22-7 Effect of ethnicity on fetal behavior : comparison of Asian and Caucasian populations

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[Objective] To evaluate ethnic difference in fetal behavior in fetal behavior between Asian and Caucasian populations. [Methods] Fetal behavior was assessed by Kurjak's antenatal neurodevelopmental test (KANET) using 4D ultrasound between 28 and 38 weeks gestation. 89 Japanese and 78 Croatian pregnant women were studied. Total KANET score and values of each parameter were compared. (approved by IRB) [Results] There were significant differences in maternal age, parity, birth weight, and Apgar scores between both groups (P<0.0001). No significant differences in birth age and sex ratio between both populations. Total KANET score was normal in both groups. There was a significant difference in total KANET scores between Japanese (median, 14: range, 10-16) and Croatian fetuses (median, 12: range, 10-15) (P<0.0001). When comparing individual KANET parameters, we found significant differences only in 4 fetal movements (isolated head anteflexion, isolated eye blinking, facial alteration or mouth opening, and isolated leg movement). [Conclusion] Ethnicity should be considered when evaluating fetal behavior, especially fetal facial expressions. Although there was a difference in total KANET score between Japanese and Croatians, all scores in both groups were within normal. Ethnical differences in fetal behavior do not affect total KANET score, but close follow-up should be continued in some borderline cases.