Placenta 87 (2019) 58–76

Contents lists available at ScienceDirect

Placenta

journal homepage: www.elsevier.com/locate/placenta

Abstracts of JPA meeting 2019

1.
A CASE OF EXTRA-ABDOMINAL UMBILICAL VEIN VARIX WITH SEVERE FETAL ANEMIA

Shingo Io [1,2], Yoshitsugu Chigusa [1], Haruta Mogami [1], Eiji Kondoh [1], Masaki Mandai [1]. [1] *Department of Gynecology and Obstetrics, Kyoto University Graduate School of Medicine;* [2] *Research Fellow, Japan Society for the Promotion of Science*

Introduction: Umbilical vein varix (UVV) is rare vascular anomaly associated with a high incidence of fetal demise and fetal growth restriction. We present a case of extra-abdominal UVV with severe anemia diagnosed by Doppler ultrasound antenatally. We also reviewed relevant literatures of extra-abdominal UVV.
Case: A 33-year-old primigravida was referred to our hospital for fetal growth restriction, fetal cardiomegaly and decreased fetal movements at 26 weeks' gestation. Doppler assessment showed an elevated middle cerebral artery peak systolic velocity (MCA-PSV) at 2.2 MoM, suggesting fetal anemia. Cordocentesis revealed hemoglobin at 1.9 g/dL and hematocrit at 6.9%. Consequently, red blood cells were transfused to the fetus. MCA-PSV decreased to 1.1 MoM instantaneously, and fetal hydrops disappeared 7 days later. Ultrasound examination revealed marked turbulent flow through a 13 mm diameter dilatation of the fetal extra-abdominal UVV. At 33 weeks' gestation, the patient underwent cesarean delivery due to nonreassuring fetal status, and a 1,334g (1st percentile) female was born, with Apgar scores of 4 at 1 min and 7 at 5 min. Pathological analysis revealed focal vascular smooth muscle tear of the umbilical vein. Epileptic encephalopathy and cerebral palsy with delayed myelination were diagnosed. Permanent tracheotomy was performed due to respiratory failure at 7 months of age.
Conclusion: Extra-abdominal UVV can present as fetal hydrops with anemia. In the ultrasound examination of fetal anemia, umbilical cord screening should be performed cautiously.

2.
THE FETAL/PLACENTAL WEIGHT RATIO IS ASSOCIATED WITH THE INCIDENCE OF ATOPIC DERMATITIS IN FEMALE INFANTS DURING THE FIRST 14 MONTHS: THE HAMAMATSU BIRTH COHORT FOR MOTHERS AND CHILDREN (HBC STUDY)

Masako Matsumoto, Chizuko Yaguchi, Chika Etoh, Takuma Furukawa, Yoshimasa Horikoshi, Naomi Isomura, Kazunao Suzuki, Hiroaki Itoh. *Department of Obstetrics and Gynecology, Hamamatsu University Schooll of Medicine*

Introduction: The present study aimed to investigate the relationship between the fetal/placental weight ratio and incidence of atopic dermatitis during the first 17 months.
Methods: Study participants were 922 infants from singleton pregnancies enrolled in the Hamamatsu Birth Cohort for Mothers and Children (HBC Study) after excluding 298 subjects for missing data on atopic dermatitis. The enrollment of atopic dermatitis was based on a positive response from parents regarding whether a physician had ever diagnosed their child with atopic dermatitis by 17 months of age.
Results: Maternal and perinatal factors did not correlate with the incidence of infantile atopic dermatitis. The fetal/placental weight ratio, but not birth or placental weight, correlated with the incidence of atopic dermatitis in female, but not male, infants. A correlation was still observed after adjustments for maternal allergy, gestational age at birth, maternal smoking during pregnancy, and household income at birth (OR: 1.57, 95% CI: 1.05-2.33).
Discussion: We speculated that the balance between fetal and placental growth may represent, at least partly, a specific history of exposure to unidentified environmental insults, including that which presumably programs a predisposition in female infants to atopic dermatitis.

3.
NICOTINE TRANSPORT AND SUPPRESSIVE EFFECT ON NUTRIENT TRANSPORT SYSTEM IN BEWO CELLS

Takako Sadakane, Jun Sugimoto, Yoshiki Kudo. *Department of Obstetrics and Gynecology, Hiroshima University*

Objective: Maternal nicotine exposure via smoking has been associated with birth complications, such as fetal growth restriction. However, the mechanism underlying the transplacental transfer of nicotine and its influence on nutrient transport system have been unclear. In this study, we investigated the mechanism of nicotine uptake and the influence of nicotine on the glucose and amino acid transport system, using BeWo cells as a model of the human placental trophoblast.
Methods: BeWo cells were incubated with [^{3}H]nicotine and used for the uptake study. Furthermore, BeWo cells were incubated with [^{3}H]3-O-methyl-D-glucose (3-OMG) or [^{3}H]aminoisobutyric acid (AIB), and the effect of nicotine on the uptake of both compounds was examined. The amount taken up by the cells was measured by liquid scintillation counting.
Results: [^{3}H]Nicotine uptake was time-, temperature- and pH-dependent and showed saturation kinetics with a Michaelis constant Km of 300.6 μM. In addition, the Eadie-Hofstee plots were linear, suggesting that a single transport system was involved in nicotine uptake in BeWo cells.
Nicotine and its metabolite cotinine showed concentration-dependent inhibitory effects on [^{3}H]3-OMG uptake. In the presence of nicotine, a Michaelis Vmax of 3-OMG significantly decreased. On the other hand, [^{3}H]AIB transport was not suppressed by nicotine.
Conclusion: These results suggest that a specific transport system is involved in the uptake of nicotine in BeWo cells, and the nutrient supply to fetus may be affected by nicotine exposure.

4.
CONSERVATIVE TREATMENT OF RETAINED PRODUCTS OF CONCEPTION AFTER ABORTION OR DELIVERY IN 33 PATIENTS

Risa Fujishima, Reona Shiro, Kiko Yamamoto, Sae Kai, Chiho Miyagawa, Masato Aoki, Tamaki Yahata, Yoshie Yo, Kosuke