

she delivered a boy weighing 2,960 g in Week 39 of pregnancy (normal transvaginal delivery). In the present case, she became pregnant spontaneously. The course of pregnancy was not contributory. On Day 5 of Week 37, natural labor pain occurred, and she was admitted. On the same day, a boy weighing 3,052 g was born (normal transvaginal delivery). For resuscitation, routine care alone was conducted. After birth, there was no abnormal finding including specific face. After the first session of lactation, vomiting was noted several times. On Day 1 of age, petechia of the face was observed. A blood test showed a leukocyte count of 59,700/ μL and a percent blast of 28%. For detailed examination, the neonate was referred to our hospital, and bone marrow biopsy was performed on Day 5 of age. The level of a myelocyte surface marker suggested TAM or acute myelocytic leukemia M7. The blast count was approximately 10,000/ μL , but both the leukocyte and blast counts decreased from Day 12 of age. Histopathologically, a large number of blasts were detected in the umbilical and stem villus blood vessels. The villus tissue consisted of mature intermediate and terminal villi, and there was no immature villus. PHA-free G-banding of peripheral blood on admission showed nuclear type 47, XY, +21 [20]. On Day 23 of age, the leukocyte count and percent blast were 13,270/ μL and 1%, respectively, showing decreases. The neonate was discharged, and follow-up was continued at the outpatient clinic. The FISH method using a buccal mucosa specimen submitted during admission led to a diagnosis of mosaic Down syndrome. We present pathological findings of the placenta, and review the literature.

33. CORE2 BETA 1, 6-N ACETYLGLUCOSAMINYL TRANSFERASE PROMOTES INVASION OF CHORIOCARCINOMA CELLS THROUGH GLYCOSYLATION TO MICA AND MUC1

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Hyperglycosylated human chorionic gonadotropin (H-hCG), which contains much larger sugar chains than regular hCG, is secreted from choriocarcinoma patients but not normal pregnancy or hydatidiform mole. O-linked H-hCG is one of important factors in invasion and growth of choriocarcinoma cells, and core2 beta 1, 6-N acetylglucosaminyl transferase (C2GnT) forms core2 O-glycan. The aim of this study is to examine roles of C2GnT in invasion mechanism of choriocarcinoma cells, especially related to the NK cell immunity. We investigated C2GnT expression in gestational trophoblastic diseases and placentas by immunohistochemistry and western blotting. We established C2GnT knockout (KO) cells with Jar and BeWo cells and investigated cytotoxicity of NK cells against those cells. MICA and MUC1 glycosylation were analyzed by immunoprecipitation. We incubated C2GnT-KO and control with TRAIL and cell viability were analyzed. We inoculated the C2GnT-KO and control cells subcutaneously into nude mice. C2GnT was highly expressed in trophoblasts of choriocarcinoma but not in hydatidiform mole and normal placenta. C2GnT-KO cells were more efficiently killed by NK cells than controls. Sugar chains attached by C2GnT on MICA and MUC1 in C2GnT-KO cells were significantly decreased. The cell viability of C2GnT-KO cells were lower than controls depending on TRAIL amount. C2GnT-KO promoted longer survival as compared with the controls. Choriocarcinoma cells may acquire a high malignant potential by expressing C2GnT with glycosylation to MICA and MUC1.

34. STERILE INFLAMMATION IN PRETERM BIRTH WITHOUT CHORIOAMNIONITIS

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Introduction: Infectious diseases can induce preterm birth (PB). In particular, chorioamnionitis (CAM) is believed to be a trigger for PB. However, cases of PB without histological CAM and of unknown etiology are often encountered. In this study, the kinetics of immune cells in the decidua of PB without CAM was evaluated.

Methods: The decidua basalis and parietalis were obtained from women with PB without CAM at gestational ages of 24⁺⁰–33⁺⁶ weeks. The participants were classified into two groups: those with labor pain and/or rupture of membrane (nCAM–w-LR) and those without these features (nCAM–w/o-LR). The immune cells in the decidua were analyzed using flow cytometry.

Results: Compared with the nCAM–w/o-LR group, increased population of invariant natural killer T (iNKT) cells and expressions of TLR4, receptor for advanced glycation and products, and CD1d on dendritic cells and macrophages were observed in the decidua parietalis of the nCAM–w-LR group. Moreover, the concentrations of high-mobility group box 1 (HMGB1) proteins in the viable and dead cells were up-regulated in the nCAM–w-LR group than those in the nCAM–w/o-LR group.

Conclusions: The cellular network in the iNKT cells, DCs, and macrophages may contribute to the onset of preterm labor and rupture of membrane without CAM. Endogenous molecules, such as HMGB1, may function as aggravating factors or activation triggers for these innate immune cells, and may subsequently lead to sterile inflammation in the implantation site.

35. EG-VEGF ENHANCES THE TROPHOBLAST INVASION THROUGH ACTIVATION OF MMP-2 AND MMP-9 VIA PROKR2 IN THE HUMAN TROPHOBLAST CELL LINES

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Objective: Trophoblast invasion is an important event in embryo implantation and placental development. Dysregulation of the finely controlled process of trophoblast invasion can lead to preeclampsia.

This study aimed to unveil the role of EG-VEGF, PROKR1/2, matrix metalloproteinase (MMP)-2 and MMP-9 in trophoblast invasion during spiral artery remodeling in the human trophoblast cell lines (HTR-8/SVneo).

Methods: The expression of HIF1- α , EG-VEGF, MMP-2 and MMP-9 was detected using real-time RT-PCR in HTR-8/SVneo under 5% oxygen condition for 24 h. MMP-2 and MMP-9 expressions were detected using real-time RT-PCR and Western blot in HTR-8/SVneo treated with recombinant EG-VEGF, PROKR1 antagonist, PROKR2 antagonist under 20% oxygen condition for 24 h.

Results: The expression of HIF1- α , EG-VEGF, MMP-2, MMP-9 was increased under 5% oxygen condition. MMP-2 and MMP-9 expressions were decreased with PROKR2 antagonist under 20% oxygen condition.

Conclusion: EG-VEGF enhances the trophoblast invasion through activation of MMP-2 and MMP-9 via PROKR2 in the human trophoblast cell lines.

36. FREQUENCY OF PERFORMING UTERINE ARTERY EMBOLIZATION FOR TREATMENT OF THE TOTALLY RETAINED PLACENTA

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Objective: Retained placenta occurs at a frequency of about 2%, often leads to postpartum hemorrhage. Although uterine artery embolization (UAE) is implicated to be useful, there is complication for its use in the management of the postpartum hemorrhage. We reviewed the retained placenta cases managed in our hospital.

Subjects and Methods: During April 2010 and March 2019, there were 50 cases with partially retained placenta and 50 cases with totally retained placenta. The later cases only were the subject of this retrospective study.

Data on the mode and the result of management were collected from medical records.

Results: All cases were vaginal delivery. We diagnosed eight cases were trapped placenta, 41 cases were adherent placenta, and one case was placenta accreta. Adherent placenta were underwent manual removal of placenta. Placenta accreta associated with bicornate uterus removed the one side uterus at the time of infection. These interventions were performed on the day from delivery on average: zero day for bleeding, nine days for infection, 1.6 days for hopeful cases, and 23 days for placenta accreta. 28 cases (56%) required blood transfusion. Two cases (4%) were performed UAE. UAE was performed prior to placental delivery. Of all 49 cases who underwent manual removal of placenta, eight cases were partially left, and two cases required hospitalization.

Conclusion: 96% of these cases were not required UAE.

37.

PECULIAR BLOOD FLOW PROFILES IN PLACENTAL CHORIONIC VILLOUS VESSELS IN A CASE OF SYSTEMIC LUPUS ERYTHEMATOSUS DESCRIBED USING MICRO-VASCULAR IMAGING

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Introduction: SMI is a new technology for observing low blood flow /high-resolution Doppler images. We report a case of SLE, showing a peculiar blood flow profile of placental villous vessels (PVVs) using SMI.

Case: The patient was a 36-year old nulliparous woman with SLE. At 36/0 weeks' gestation, severe fetal growth restriction of -2.6SD for the gestation and a thick placenta of 67mm was noted. There was a thin area in the myometrium to which the placenta was attached. SMI revealed double layers of signals in the area of the normal myometrium equivalent to myometrium and decidual blood flows, however, only a single layer in the area of the thin myometrium. PVVs flow profiles were different depending on the sites; sparse PVVs with poor branching structures underneath the area of normal myometrium, and more sparse and fewer branching PVVs underneath the area of thin myometrium. At 36/3 weeks' gestation, Caesarean hysterectomy was performed due to abnormal fetal heart rate patterns and placenta previa. A 1,771-gram female neonate was delivered. Histopathological examination of the placenta showed missing decidual tissues in the area of the thin myometrium and the villous stroma at placenta increta had rich fibrin depositions.

Discussions: We speculated that the sparse distribution of PVVs and poor branching structures were due to chronic utero-placental insufficiency and a poor blood supply in the area of thin myometrium led to further maldevelopment of chorionic vessels.

38.

THE ASSOCIATION WITH MICRORNAS IN THE PATHOGENESIS OF PREECLAMPSIA

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Objective: Placentation requires the invasion of trophoblasts into the decidua and myometrium. And if they are insufficient, it results in placental hypoplasia and causes preeclampsia.

Involvement of trophoblasts in the myometrium has been suggested to involve Heparin-binding epidermal growth factor (HBEGF). Although it is known that expression of HBEGF is significantly reduced in the preeclampsia placenta, no association with microRNA(miR) has been reported. To detect the influence of miR132, which has been reported to be involved in the invasion of cancer cells, in a trophoblast cell line, on the invasion ability of trophoblasts through regulation of HBEGF expression.

Methods: After being cultured and transferred pre-miR132, the trophoblast cell lines (BeWo and HTR8/SVneo) were seeded. After 48 hours, RT-PCR was used to measure the expression levels of HBEGF mRNA.

Results: The expression of miR132 was increased in BeWo and HTR8/SVneo after miR132 transfection.

Compared with the control group, the expression levels of HBEGF mRNA were significantly reduced in the cell group by miR132 transfection.

Conclusion: Involvement of miR132 and HBEGF expression in trophoblast cell line has been suggested.

39.

HOMOCYSTEINE INDUCES APOPTOSIS IN CHORIOCARCINOMA CELLS

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Introduction: In recent years, folate deficiency has been reported to be associated with habitual abortions, placental abruption or infarcts, and intrauterine growth retardation, and the mechanism is considered that folate deficiency slows the turnover of the folate pathway and increases blood serum concentration of Homocysteine (Hcy). Furthermore, there are some reports that Hcy induced apoptosis of trophoblasts. Thus, we focused on the possibility that intracellular Hcy concentration is involved in choriocarcinoma cell death by methotrexate (MTX).

Objective: The purpose of this study was to establish MTX resistant choriocarcinoma cell lines and to investigate the possibility that Hcy would decrease cell viability and increase apoptosis in choriocarcinoma cells.

Methods/Results: We established MTX resistant choriocarcinoma cells with using JAR cells. The IC50 was 8.88x10⁻⁷M for the wild strain and 3.35x10⁻³M for the MTX resistant strain. 200μM, 1mM, 2mM, 10mM, 20mM Hcy was added to the JAR cells, and the viable cells after 48 hours were counted. The percentages of viable cells to control which is viable cells with no treatment were 73%, 50%, 37%, 20% and 5%, respectively. Next, 1mM, 5mM Hcy was added to the JAR cells, and apoptosis was evaluated using flow cytometry. In control, 1mM Hcy, 5mM Hcy, the apoptotic cell rates in total cells were 5.9, 5.4, 10.3%, respectively.

Discussion/Conclusion: In MTX sensitive JAR cells, Hcy treatment was considered to induce apoptosis and suppress cell proliferation.

40.

A CASE OF CRIMINAL OFFENSE REVEALED BY RETAINED PLACENTA

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Introduction: Unwanted pregnancy can be an underlying cause in incidents of abandonment of newborn babies after birth, and occurs often in Japan. Many such cases involve home births, which can also pose dangers to the mother. In this paper, we report our experience of a case in which a patient was brought to our department due to severe anemia caused by retained placenta following home birth, and which ultimately became a criminal case.

Case: A 32-year-old woman, gravida 5, para 4, visited a nearby clinic with a chief complaint of dizziness. As anemia and decreased hepatic function were observed, she was transferred to the emergency outpatient department of our hospital. On arrival, genital bleeding was observed, a blood test showed that hemoglobin levels had dropped to 3.5 g/dL, and a computed tomography scan revealed a uterine mass, and the patient was transferred to our department. An examination revealed a chorionic villi-like component in the vagina and placenta-like tissue attached to the wall of the entire uterus. Although we attempted traction, it proved difficult and after administering a blood transfusion we attempted manual removal under general anesthesia. However, as removal was difficult, we performed a