Introduction: Feto-maternal tolerance is essential for pregnancy maintenance. Seminal priming induces temporal inflammation and immature uterine DCs that would be related to tolerogenic DCs at the time of implantation. Additionally seminal plasma has been proposed to contribute to tolerance. We clarified dynamic changes of uterine DC phenotype related to sperm and seminal plasma.
Materials & Methods: Female C57BL/6 mice were mated with male intact, seminal vesicle-excised (SVX), or vasectomized (VAS) BALB/c mice. Non-mated control mice were prepared in the estrous stage. Uterine DCs were analyzed at days 1.5 and 3.5 post-coitus (pc) by using the flow cytometry.
Results & Discussion: Uterine $CD45^+F4/80^-CD11c^+$DCs were classified into $CD103^-$DCs, $CD103^+$DCs, and PDCA-1^+plasmacytoid DCs (pDCs). In addition, those were subdivided into immature and mature DCs based on their expressions of CD86 and MHC class II. At day1.5 mature DCs in $CD103^-$DCs and $CD103^+$DCs were increased in intact and SVX, but not changed in VAS. At Day3.5 immature DCs were increased in each mating. Then the level of PD-L2 expression on mature DCs were upregulated than immature DCs before implantation.
Conclusion: Seminal plasma might contribute to tolerogenic condition without maturation of DCs. Before implantation it might be two types of uterine DCs. One is the immature DCs as it used to be proposed, the other is mature DCs expressing PD-L2 which contribute to induction of feto-maternal tolerance by inhibiting effector T cells.

9.
LNCRNA H19-DERIVED MIR-675-5P IS INVOLVED IN THE REGULATORY MECHANISM OF TROPHOBLAST INVASION

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Objective: MicroRNA *miR-675-5p* is generated from long non-coding RNA (lncRNA) *H19* that is highly expressed in human trophoblasts, especially extravillous trophoblasts (EVTs). However, the role of *miR-675-5p* in EVTs is not established. In this study, we investigated the effect of *miR-675-5p* on EVT invasion; moreover, we compared the expression levels of *miR-675-5p* between normal and preeclampsia (PE) placentae.
Methods: For evaluation of the effect of *miR-675-5p* on EVT invasion, *miR-675-5p* was overexpressed in the HTR-8/SVneo EVT cell line. Cell invasion ability and gene expression were evaluated by Matrigel-coated Transwell assay and real-time PCR, respectively. For analysis of *miR-675-5p* expression in the human placenta, placental samples were obtained from the pregnant women who gave informed consent (normal: $n = 10$, early onset PE: $n = 7$, late onset PE: $n = 4$). The expression levels of placental *miR-675-5p* were evaluated by real-time PCR.
Results: Regarding evaluation of the effect of *miR-675-5p* on EVT invasion, cell invasion was significantly activated in *miR-675-5p*-overexpressing HTR-8/SVneo cells. Cell invasion-related genes (e.g., *CXCL12*) were significantly upregulated in the cells. As to *miR-675-5p* expression in the human placenta, its expression was significantly upregulated in early onset PE placentae (1.82-fold median increase) and late onset PE placentae (1.73) as compared with normal placentae.
Conclusion: Our findings suggest that *miR-675-5p* accelerates EVT invasion. Aberrant expression of *miR-675-5p* might be involved in the pathogenesis of PE.

10.
DAMAGE OF AMNIOTIC EPITHELIUM BY DNA OXIDATIVE STRESS IN DIFFUSE CHORIOAMNIOTIC HEMOSIDEROSIS

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Introduction: The amniotic membrane plays an important role in the physiological maintenance and protection of the embryo. Dysfunction of the amniotic membrane is thought to have an adverse effect on the continuation of pregnancy. Diffuse chorioamniotic hemosiderosis (DCH) occurs when marginal or sub-chorionic placental hemorrhage migrates into the amniotic fluid and diffusely deposited as hemosiderin in the chorionic plate or membrane. Amniotic epithelial necrosis is frequently identified in DCH. In this report, we examined the pathological changes in the amniotic epithelium in three cases of diffuse chorioamniotic hemosiderosis (DCH) and investigated the relationship with DNA oxidative stress.
Result: DCH was confirmed by berlin blue staining, and amniotic necrosis was severe depending on the deposition of hemosiderosis. Immunostaining of 8-OHdG (8-hydroxy-2'- deoxyguanosine) which is a marker of DNA oxidative stress showed that presence of 8-OHdG in amniotic epithelium was positive in the amniotic epithelial cells.
Discussion: In this report, we describe two new findings: (i) the severity of DCH is related to amniotic epithelial necrosis, and (ii) the amniotic epithelium sustains oxidative stress in association with DCH. We speculated that oxidative DNA damage of the amniotic epithelium occurs by decomposition products of blood cells in cases of sub-chorionic hematomas and pathological DCH. Disorders of the amniotic epithelium may also disrupt the balance of the amniotic fluid volume and cause oligohydramnios.

11.
THE PREDICTION OF ABNORMALLY INVASIVE PLACENTA IN SUBSEQUENT PREGNANCIES AFTER UTERINE ARTERY EMBOLIZATION FOR POSTPARTUM HEMORRHAGE

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Objective: It has been reported that pregnant women with histories of uterine artery embolization (UAE) are at high risk for abnormally invasive placenta (AIP). The aim of this study was to evaluate the predictive accuracy of imaging examinations for AIP in subsequent pregnancies after UAE for postpartum hemorrhage (PPH).
Methods: This retrospective study enrolled 14 pregnant women with histories of UAE for PPH who underwent both ultrasonography (US) and magnetic resonance imaging (MRI) during subsequent pregnancies from 2011 to 2019. US finding of grade 3 placental lacunae, bridging vessels, and loss of clear zone were evaluated, in addition to MRI findings. The predictive accuracy was evaluated.
Result: Six of the 14 women (43%) were diagnosed as having AIP. In three of the 6 pregnant women (50%) with both histories of UAE and AIP, AIP could be predicted by imaging examinations, two by both US and MRI, and one by MRI alone. On the other hand, two of the eight pregnant women (25%) who had US or MRI findings suggestive of AIP didn't have AIP. The sensitivity, specificity, PPV, and NPV were 60%, 67%, 50%, and 75%, respectively.
Conclusion: The predictive accuracy of US and MRI examinations for AIP was not so high. In subsequent pregnancies after UAE for PPH, we must consider the risk of AIP despite the results of prenatal imaging examinations.

12.
CLINICAL CHARACTERISTICS OF DECIDUITIS IN THE PLACENTA AT THE TIME OF THE MID-TRIMESTER MISCARRIAGE AND PRETERM DELIVERY

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Objective: Patients who had a miscarriage or preterm delivery in the mid-trimester are often found with deciduitis associated with severe inflammation in the decidua. The aim of this study is to investigate the presence or absence of deciduitis and its clinical background in the mid-trimester miscarriage and preterm delivery cases.
Methods: The subjects were 37 patients who had a miscarriage or preterm delivery in the mid-trimester due to labor pains or amniorrhexis between