ISP-29-2  Enhanced expression of lysophosphatidic acid receptors in preeclamptic placentas

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[Objective] Lysophosphatidic acid (LPA) is a representative lipid mediator. Six specific receptors (LPARs) have been identified so far. We previously reported reduced production of LPA producing enzyme ATX in the placenta of women complicated with preeclampsia (PE). This study aimed to investigate the expression of LPARs in the placenta with PE. [Methods] Under the approval by IRB and patient's consent, placentas were collected from pregnant women with preeclampsia (n=26) and uncomplicated pregnant women (n=20 in the first trimester and n=22 at term). The expression of LPARs in the placentas was analyzed by quantitative RT-PCR and western blotting. [Results] The mRNA expression levels of LPAR4 except for LPAR4 were significantly higher at term pregnancy compared to that in the first trimester (p<0.001). In the preeclamptic placentas, mRNA expressions of LPAR1, LPAR2, LPAR3 and LPAR4 were significantly elevated compared to normal term placentas (p<0.05). The increased expression of LPAR3 but not LPAR1 and LPAR2 was revealed by Western blotting analysis (p<0.05). [Conclusion] Our findings suggest that the altered LPA-LPAR signaling might be involved in the impaired placentation of preeclamptic pregnancy.

ISP-29-3  Cytokine levels in serum, placenta and amniotic membrane of the preterm mouse model with chronic odontoegenic Porphyromonas gingivalis infection

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[Objective] It is now widely accepted that inflammation induces preterm delivery. However, the mechanism is uncertain. We found that the odontoegenic Porphyromonas gingivalis (P.g) infection induces preterm delivery in mice. This study aimed to analyze the relationship between P.g infection and pro-inflammatory cytokines. [Methods] We observed P.g in the placenta using immunohistochemistry. We also measured TNF-α and IL-1β levels in the blood serum using ELISA and in the amniotic membrane, placenta, and myometrium using real-time PCR at day 18 of gestation in control and P.g mice. This study was carried out in accordance with the guideline from the committee of research facilities for laboratory animal science at our University. [Results] Immunohistochemistry revealed that the P.g colonies were expressed primarily in the placenta at the embryonic side. Serum TNF-α and IL-1β levels were 1.9 and 2.7 fold elevated in the P.g-infected mice. IL-1β levels in the placenta and amniotic membrane were 2.3 and 5.7 fold increased but not in the myometrium. The TNF-α level increased 2.2 fold in the placenta but not in the amniotic membrane and myometrium. [Conclusion] The high pro-inflammatory cytokine level supposed to be associated with P.g infection plays a role in promoting preterm delivery. However, the origin of cytokines and the mechanism leading to preterm delivery have not been confirmed.

ISP-29-4  Risk factors for retained products of conception after mid-trimester abortion

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[Objective] Retained products of conception (RPOC) is one of the cause of post-partum hemorrhage. Some cases of retained placenta are shown after mid-trimester abortion. We conducted a retrospective study on risk factors of RPOC after mid-trimester abortion. [Methods] This was a retrospective cohort study of 55 patients who had medical abortion between 12 weeks 0 day and 21 weeks 6 days gestation (IUFD: 19 cases, Artificial abortion: 36 cases) in our hospital. We evaluated maternal age, gestational age at delivery, null or multi parous, past history of abortion, past surgery of uterus, the number of gynecost administration, and the period of 3rd stage labor, and analyzed their correlation with RPOC. [Results] RPOC was shown in eight cases (15.1%) of all medical abortion. Comparing the group of RPOC with non-RPOC, there were statistically significant differences in gestational age at delivery (13.4 weeks vs 18.3 weeks, p=0.001), the period of 3rd stage of labor (25.0 min vs 7.0 min, p=0.019). Multivariate analysis showed that early gestational age (less than 16 weeks) was a risk factor for RPOC. [Conclusion] The early gestational age weeks may be a risk factor of RPOC after mid-trimester abortion. Evaluation of RPOC by ultrasound after medical abortion is important at early gestational age.