

**ISP-12-2** Pregnancy outcomes of women who inhaled laninamivir octanoate during pregnancy : preliminary report

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[Objective] To assess pregnancy outcomes of women who inhaled laninamivir during pregnancy. [Methods] Retrospective review on pregnancy outcomes of all 45 pregnant women who inhaled laninamivir for treatment of influenza at 16 facilities between October 2011 and March 2012 after approval of our institutional Review Board. Frequencies of possible adverse events such as miscarriages, preterm deliveries, and abnormalities in neonates were assessed. [Results] Three, 18, 20 and 4 women with singleton pregnancies were administered with a single inhaled dose of 40 mg of laninamivir at gestational week (GW) 4-11, 12-21, 22-36, and 37 or more, respectively. None and four women experienced miscarriage at GW less than 22 and preterm birth at GW less than 37, respectively. Among 45 live-born infants weighing from 2598 g to 3782 g, none, none, and 1 had a major malformation, low birth-weight less than 2500g, and birth-weight of small for gestational age, respectively. Two and 5 neonates required transient assisted ventilation for respiratory distress syndrome and phototherapy for hyperbilirubinemia, respectively, but none exhibited neonatal hypoglycemia. [Conclusion] Maternal exposure to laninamivir did not appear to be causally related to adverse pregnancy and fetal outcomes.

**ISP-12-3** Clinical features of Mirror syndrome : Comparison of 10 cases of Mirror syndrome with non-Mirror cases of fetal hydrops

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[Objective] To investigate clinical features of Mirror syndrome. [Methods] We reviewed the records of 10 cases of Mirror syndrome between January 2009 and August 2013, with informed consent, and assessed the onset time and severity of fetal hydrops, and laboratory data. Comparison group was 25 cases of fetal hydrops which did not develop Mirror syndrome. [Results] Symptom of nine cases (90%) of Mirror syndrome was disappeared in  $2.1 \pm 0.9$  days after delivery, but one case (10%) developed kidney failure. The Mirror group had earlier onset of fetal hydrops ( $27.0 \pm 5.4$  vs  $30.0 \pm 4.3$  weeks of gestational age,  $P = 0.039$ ), and more severe fetal edema (fetal edema/BPD : biparietal diameter,  $0.38 \pm 0.50$  vs  $0.20 \pm 0.05$ ,  $P = 0.012$ ) significantly, but no differences in stillbirth rate (50% vs 50%). The Mirror group had significantly lower Hb ( $8.8 \pm 1.1$  vs  $10.1 \pm 1.0$  g/dL,  $P = 0.0037$ ), albuminemia ( $2.3 \pm 0.3$  vs  $2.7 \pm 0.3$  g/dL,  $P = 0.011$ ), and higher uricemia ( $6.2 \pm 1.5$  vs  $5.0 \pm 1.7$  mg/dL,  $P = 0.047$ ). In all the Mirror cases (6/6), the serum hCG level was above 200,000 IU/L, whereas the hCG level was below 200,000 IU/L in most of the non-Mirror cases (9/11, 82%). [Conclusion] These data suggest that patient with Mirror syndrome develop earlier onset and more severe fetal hydrops, more severe anemia, hypoalbuminemia, hyperuricemia, and that there is no correlation of fetal prognosis between Mirror and non-Mirror group.

**ISP-12-4** Management of Alagille syndrome and pregnancy : a case report

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[Background] Pregnancy in patients with Alagille syndrome (AS) is rare. This is characterized by cholestasis resulting from intrahepatic biliary hypoplasia. The number of Japanese AS patient was reported as 114. [Case report] A 22 year old female with a history of a missed abortion 7 months ago was seen at the previous hospital for edema and amenorrhea. Her examination was remarkable for proteinuria, thrombocytopenia, hypertension and ascites. She was diagnosed 27 weeks of gestation by fetal biparietal diameter and transferred to our maternity unit. Her medical record in our hospital revealed her disease as AS ; intrahepatic biliary hypoplasia, peripheral pulmonary stenosis, characteristic face and butterfly vertebrae. Anesthetic difficulty was predicted. Her thrombocytopenia was caused by liver cirrhosis and hypersplenism. The patient had no esophageal varices and no intracranial vessel abnormalities. Due to her acute renal failure, cesarean section under general anesthesia was performed at 29 weeks of gestation. Atonic bleeding was treated with intrauterine balloon. Management of acute pulmonary edematous, severe proteinuria and hypertension required for several days. She left hospital 11th day after the surgery. [Conclusion] This is a report of pregnancy management with AS. An awareness of possible organ involvement and multidisciplinary approach is required in patients with AS.