Intrauterine transfusion for fetal anemia due to parvovirus-B19 infection – can we predict the outcome?
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Objective
The optimal management of pregnancies complicated by fetal anemia due to human parvovirus-B19 (HPV-B19) infection is unclear. Although intrauterine transfusion (IUT) has been shown, in observational studies, to be associated with better outcome compared to expectant management, this procedure is associated with significant fetal risks. Information about risk factors for adverse outcome following IUT may assist in case selection. Our objective was to identify factors associated with intrauterine fetal death (IUFD) following IUT in pregnancies complicated by fetal HPV-B19 infection at a single center.

Methods
Retrospective study of all cases of IUT for fetal anemia due to HPV-B19 infection performed at a single tertiary referral center from 2000-2013. The maternal, clinical and laboratory factors associated with the risk of post-IUT IUFD were analyzed.

Results
1) Overall, 23 fetuses with anemia due to HPV-B19 infection underwent a total of 52 IUT’s. 2) The overall IUFD rate was 26% (6/23), which occurred at a mean of 21.5 wks gestation. 3) Pregnancies complicated by IUFD were associated with the following: lower gestation at maternal infection (19±5 vs. 23 ±2.6 wks, p=0.04), IUT performed ≤ 20 wks gestation (83% vs. 19%, p=0.3), and a significantly lower platelet count at IUT (32 ± 20 vs. 92 ± 65 x109/L, p=0.04). 4) The risk of IUFD was unrelated to either distribution or severity of fetal hydrops, fetal hemoglobin at FBS, presence of fetal cardiomegaly, number of IUT’s, IUT approach (i.e., umbilical vein, hepatic vein or intracardiac) and number of cord punctures.

Conclusion
The risk of IUFD following IUT for the treatment of fetal anemia due to HPV-B19 appears to be related mainly to gestational age at IUT and severity of thrombocytopenia, and unrelated to technical procedural characteristics.