

Intrauterine transfusion for fetal anemia secondary to fetoplacental tumors: a systematic review of pregnancy outcomes

Claudio V. Schenone, Steven Fishman, Heung Kim, Anthony Odibo, Alireza A. Shamshirsaz, Eyal Krispin

Objective

To identify baseline characteristics of pregnancies with prenatally-detected fetal or placental tumors complicated by fetal anemia undergoing intrauterine transfusion (IUT) and to evaluate their outcomes.

Methods

We searched PubMed, Embase, Web of Science, Scopus, and Google Scholar for articles published from inception through October 2024. Only articles written in English were considered. The primary outcome was perinatal death (PND). Secondary outcomes included preterm labor (PTL) and preterm delivery (PTD), premature prelabor rupture of membranes (PPROM), placental abruption, and mirror syndrome. We performed exploratory subgroup analysis according to PND status and whether the patient underwent prenatal tumor resection, embolization or ablation in addition to IUT.

Results

We included 43 cases, including 42 cases from 35 studies and an additional case managed at our institution. Most cases had a non-structural complication other than fetal anemia at baseline (92.5%). In addition to IUT, prenatal tumor resection, embolization or ablation was performed in 40.0% of cases. PND occurred in 11 cases (25.6%).

Pregnancies complicated by PND had higher rates of fetal hydrops (32.1% vs 75.0%, $p = 0.04$) and cardiomegaly (32.3% vs 75.0%, $p = 0.04$). PTL or PPRM complicated 40.5% of cases. PTD occurred in 77.5% of cases, 25.7% of whom delivered at < 28 weeks.

Conclusion

Pregnancies with prenatally-detected fetal or placental tumors complicated by fetal anemia, deemed candidates for IUT, have high rates of additional complications. Perinatal death rates in this population are high, likely due to severity at baseline and high rates of obstetrical complications and preterm deliveries.

IUT as a standalone therapy may be effective in selected cases. However, ideal candidates and best management strategies remain to be determined.