

Phillip Romanski

Title: Perinatal and Peripartum Outcomes in Vanishing Twin Pregnancies Achieved by In Vitro Fertilization

Abstract

Objective: To compare perinatal and peripartum outcomes of vanishing twin gestations to singleton and dichorionic twin gestations in pregnancies conceived by in vitro fertilization (IVF).

Methods: We conducted a retrospective cohort study of vanishing twin pregnancies following fresh and cryopreserved autologous IVF cycles performed at our institution from 2007 to 2015. Singletons, dichorionic twins, and dichorionic twins with spontaneous reduction to one by 14 weeks of gestation (vanishing twins) were included. Analysis was restricted to patients with a livebirth delivery at our institution at or beyond 24 weeks of gestation. The primary outcomes were gestational age and birth weight at delivery; secondary outcomes included peripartum morbidities. A subanalysis further defined the vanishing twin pregnancies between those when demise of the twin occurred before compared with after identification of fetal cardiac activity. Logistic regression models were used to estimate the adjusted odds ratio (aOR) with a 95% confidence interval (CI) of outcomes.

Results: There were 1,189 pregnancies that met inclusion criteria (798 singletons, 291 twins, and 100 vanishing twins). The mean gestational age at birth and birth weights were 38.6 ± 2.3 weeks and $3,207 \pm 644$ grams for singletons, 35.5 ± 2.7 weeks and $2,539 \pm 610$ grams for twins, and 38.5 ± 1.8 weeks and $3,175 \pm 599$ grams with a vanishing twin. When compared to twins, those with a vanishing twin had lower odds of preterm delivery (OR 0.13, 95% CI 0.07-0.23; aOR 0.12, 95% CI 0.07-0.22) and small-for-gestational-age birth weight (OR 0.24, 95% CI 0.13-0.45); aOR 0.14, 95% CI 0.07-0.28).

Conclusion: In pregnancies conceived by IVF that progress to at least 24 weeks, vanishing twin and singleton pregnancies had similar perinatal and peripartum outcomes. Both were significantly better than twin pregnancies.