

Maternal and Neonatal Complications in Twin Deliveries as Compared to Singleton Deliveries following *In vitro* Fertilization

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ABSTRACT

Background: Twin pregnancy is an iatrogenic complication following *in vitro* fertilization (IVF) that can be decreased using elective single-embryo transfer. However, the risks associated with twin pregnancy following IVF as compared to singleton IVF pregnancy need to be further evaluated. **Aim:** This study aims to compare the maternal, perinatal, and neonatal complications in singleton and twin pregnancies following IVF-intracytoplasmic sperm injection (ICSI). **Settings and Design:** Retrospective observational cohort study using previously collected routine patient data. **Materials and Methods:** Singleton and twin deliveries following IVF/ICSI from January 2014 to August 2015 were included. Data were collected from patient records and the obstetricians of the patients. **Statistical Analysis Used:** SPSS was used for analysis. Student's *t*-test and Fisher's exact test were used for continuous and categorical data, respectively. Significance was kept at 0.05. **Results:** There were 897 singleton and 382 twin deliveries (total of 1661 babies). The mean gestational age at delivery was lower in twin deliveries (34.9 ± 3.1 weeks) as compared to singleton deliveries (36.8 ± 3.2 weeks, $P < 0.001$). The overall incidence of maternal complications was higher in twin pregnancies (29.3% vs. 21.3%, odds ratio = 1.53, 95% confidence interval = 1.17–2.01; $P = 0.003$). The mean birth weight of babies was significantly lower (2.02 ± 0.58 kg vs. 2.71 ± 0.68 kg; $P < 0.001$) and the incidence of stillbirth plus neonatal death was higher (7.5% vs. 4.6%, $P = 0.01$) in the twin group as compared to the singleton group. **Conclusion:** Twin deliveries, following IVF/ICSI deliver at lower gestational age, have lower birth weight and have higher odds of stillbirth plus neonatal death as compared to singleton deliveries following IVF/ICSI.

KEYWORDS: *In vitro* fertilization, maternal complications, neonatal complications, singleton delivery, twin delivery