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Perinatal morbidity and early neonatal mortality in twin pregnancies

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ABSTRACT

Purpose: The purpose of this study was to investigate the impact of maternal, fetal and obstetric parameters in twin pregnancies due to chorionicity, perinatal morbidity and early neonatal mortality. **Methods:** Early neonatal outcome parameters were retrospectively analysed in 240 twin pregnancies (51 monochorionic [MC], 189 dichorionic [DC] twins) over a 7.5 years period. Beside chorionicity, we focused on risk factors affecting perinatal morbidity and early neonatal outcome in the overall study cohort and subgroups 1) late preterm and 2) pregnancies conceived by artificial fertilization (IVF/ICSI). Mixed effects logistic regression models were used for multivariate risk analyses. **Results:** MC vs DC pregnancies showed significantly lower birth weights ($p < 0.01$), decreased gestational ages ($p < 0.01$), increased rates of mechanical ventilation ($p < 0.05$) and higher early neonatal mortality rates ($p < 0.05$). Additional risk factors for perinatal morbidity and adverse early neonatal outcome were prematurity (<36 completed weeks of gestation), severe intertwin birth weight discordance >25% and amniotic inflammation (amniotic infection syndrome [AIS]). A gestational age >36 completed weeks was accompanied by a decrease of early neonatal complications ($p < 0.05$). Pregnancies conceived by IVF/ ICSI didn't differ from the overall study cohort regarding the investigated risk factors. **Conclusions:** Twin pregnancies complicated by prematurity, AIS and severe intertwin birth weight discordance are associated with higher perinatal morbidity and adverse early neonatal outcome. In addition, MC twins are jeopardized by an increased early neonatal mortality and therefore represent considerable challenges to both obstetricians and neonatologists. Based on our results, we recommend such twin pregnancies to be monitored and delivered at tertiary perinatal care centres to minimize perinatal morbidity and adverse early neonatal outcomes.

KEYWORDS

Twins; Chorionicity; Obstetric Outcome; Perinatal Morbidity; Early Neonatal Outcome

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