

Clinical consequences of first trimester discordant twins

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Objective : To compare perinatal outcomes of first trimester discordant twins with second or third trimester discordant twins and concordant twins.

Methods : The pregnancy outcomes of twin pregnancies delivered at Samsung Medical Center from October 1994 to February 2006 were analyzed retrospectively. Subjects were categorized into following three groups: 1) group 1, first trimester discordant twins defined as intertwin CRL difference ≥ 5 days at 10-14 weeks of gestation ($n=32$), 2) group 2, second or third trimester discordant twins defined as intertwin AC difference >20 mm at 20-28 weeks of gestation or intertwin fetal weight difference $>25\%$ beyond 29 weeks of gestation ($n=41$), 3) group 3, concordant twins with no discordancy throughout whole gestation ($n=729$). The perinatal complications analyzed for were congenital anomaly, fetal growth restriction (FGR), admission to neonatal intensive care unit and perinatal mortality.

Results : The three groups were similar with respect to maternal characteristics, ART rate, chorionicity and preterm delivery rate. Overall, group 2 had higher perinatal complications compared to group 3. Perinatal mortality (12.5% vs. 3.7%, $p<0.05$) and FGR (28.1% vs. 9.3%, $p<0.01$) were more common in group 1 compared to group 3. Congenital anomaly was more common in group 1 than group 3 but the difference was not statistically significant (12.5% vs. 6.1%, $p=0.139$). Overall perinatal outcomes between group 2 and group 1 were similar except for decreased FGR rate (28.1% vs. 71.1%, $p<0.01$) in group 1.

Conclusion : First trimester discordant twins have an increased risk of FGR and perinatal mortality, and therefore, they should be regarded as a high-risk pregnancy likewise second or third trimester discordant twins.