

Preterm birth in twins after sub fertility treatment: population based cohort study.

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Abstract

OBJECTIVES: To assess gestational length and prevalence of preterm birth among medically and naturally conceived twins; to establish the role of zygosity and chorionicity in assessing gestational length in twins born after sub fertility treatment. **DESIGN:** Population based cohort study. **SETTING:** Collaborative network of 19 maternity facilities in East Flanders, Belgium (East Flanders prospective twin survey). **PARTICIPANTS:** 4368 twin pairs born between 1976 and 2002, including 2915 spontaneous twin pairs, 710 twin pairs born after ovarian stimulation, and 743 twin pairs born after in vitro fertilization or intracytoplasmic sperm injection. **MAIN OUTCOME MEASURES:** Gestational length and prevalence of preterm birth. **RESULTS:** Compared with naturally conceived twins, twins resulting from sub fertility treatment had on average a slightly decreased gestational age at birth (mean difference 4.0 days, 95% confidence interval 2.7 to 5.2), corresponding to an odds ratio of 1.6 (1.4 to 1.8) for preterm birth, albeit confined to mild preterm birth (34-36 weeks). The adjusted odds ratios of preterm birth after sub fertility treatment were 1.3 (1.1 to 1.5) when controlled for birth year, maternal age, and parity and 1.6 (1.3 to 1.8) with additional control for fetal sex, caesarean section, zygosity, and chorionicity. Although an increased risk of preterm birth was therefore seen among twins resulting from sub fertility treatment, the risk was largely caused by a first birth effect among sub fertile couples; conversely, the risk of prematurity was substantially leveled off by the protective effect of dizygotic twinning. **CONCLUSIONS:** Twins resulting from sub fertility treatment have an increased risk of preterm birth, but the risk is limited to mild preterm birth, primarily by virtue of dizygotic twinning.