

題名:Growth of children conceived by in vitro fertilization

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上傳時間:2009-10-27T03:48:42Z

摘要:CONTEXT: Term-born children conceived by in vitro fertilisation (IVF) are reportedly taller than naturally conceived (NC) children. High levels of growth promoting hormones and epigenetic imprinting have been suggested as pathogenetic mechanisms. HYPOTHESIS: Tall stature in prematurely born IVF-conceived (IVF-C) children suggests pre- or early implantation imprinting rather than a postnatal effect. METHODS: We studied 334 very low birthweight (VLBW: birth weight <1500 g) children born prematurely during 1995-1999 and obtained their anthropometric measures at 6-10 years of age. Perinatal and neonatal data were obtained from the Israeli VLBW database. We compared IVF-C, ovulating agents conceived (OA-C) and naturally conceived (NC) groups of children with respect to their and their parents' anthropometry and their perinatal/neonatal variables. RESULTS: Childhood height standard deviation scores (SDSs) were greatest in IVF-C (-0.12 (SD 1.25); $p < 0.022$) and insignificantly greater in OA-C (-0.37 (SD 1.02)) as compared to NC (-0.58 (SD 1.36)) children. The IVF-C and NC groups were significantly different regarding 17 parental and perinatal variables; however, multiple regression analysis including these variables showed that, as compared with NC, IVF-C children had significantly older mothers at birth with earlier follow-up during pregnancy and more multi-fetal pregnancies. CONCLUSIONS: IVF-C and to a lesser extent OA-C prematurely born children are taller than otherwise NC children. After ruling out postnatal and parental causes, we speculate that pre- or early implantation factors might have contributed to the taller stature of IVF-C children.