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Breech presentation at term and associated obstetric risks factors – a nationwide population based cohort study

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Abstract

Purpose The aim of this study was to estimate whether breech presentation at term was associated with known individual obstetric risk factors for adverse fetal outcome.

Methods This was a retrospective, nationwide Finnish population-based cohort study. Obstetric risks in all breech and vertex singleton deliveries at term were compared between the years 2005 and 2014. A multivariable logistic regression model was used to determine significant risk factors.

Results The breech presentation rate at term for singleton pregnancies was 2.4%. The stillbirth rate in term breech presentation was significantly higher compared to cephalic presentation (0.2 vs 0.1%). The odds ratios (95% CIs) for fetal growth restriction, oligohydramnios, gestational diabetes, a history of cesarean section and congenital fetal abnormalities were 1.19 CI (1.07–1.32), 1.42 CI (1.27–1.57), 1.06 CI (1.00–1.13), 2.13 (1.98–2.29) and 2.01 CI (1.92–2.11).

Conclusions The study showed that breech presentation at term on its own was significantly associated with antenatal stillbirth and a number of individual obstetric risk factors for adverse perinatal outcomes. The risk factors included oligohydramnios, fetal growth restriction, gestational diabetes, history of cesarean section and congenital anomalies.

Keywords Breech presentation • Predicting factors • Risk factors • Fetal growth restriction • Stillbirth • Oligohydramnios

Introduction

Breech presentation occurs in 3–4% of all deliveries. The most common reason for breech presentation is preterm delivery, as up to 35% of preterm fetuses are in breech position [1] and most of the fetuses turn spontaneously into vertex position near term. If the fetus remains in breech presentation until term it is likely there is a reason preventing the turning of the fetus into vertex presentation. The factors that increase the risk of breech presentation are well described, and may be related to an impediment of fetal rotation, an outstanding fetal rotation or abnormal fetal movements. Breech presentation may also occur if the engagement of the fetal head in the maternal pelvis is disturbed [2]. As shown previously, breech presentation is associated not only with preterm delivery but also with nulliparity, female gender of the fetus, low fetal weight, oligohydramnios and maternal hip and uterus deformities [1, 3]. Planned vaginal breech delivery has been under debate at least since the time that the term breech trial reported that planned vaginal breech delivery is associated with adverse perinatal short-term outcomes [4]. The impact of the term breech trial has, however, been questioned as the stringent criteria for vaginal breech delivery were violated in many ways and many of the stillbirths occurred in growth restricted pregnancies [5]. Since then, a number of studies have been published showing that vaginal breech delivery is safe for mother and child if the women are carefully selected for a trial of labor and labor management takes place in an appropriate obstetric setting [6–12]. In the

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