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Trial of vaginal breech delivery in carefully selected women is worth considering—Fruit for thought!

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ABSTRACT

There remains uncertainty about the optimal route of delivering carefully selected breech babies at term. This review argues strongly that vaginal mode of delivery should be considered in selected cases rather than offering an elective caesarean section for every patient.

The results of the Term Breech Trial (TBT), published in September 2000, were welcomed by most obstetricians: better outcome after caesarean section (CS) than after a trial of labour [1]. So no need anymore to attend these labours; do a CS! However, some years later it appeared that the study may have contained some flaws and did not result in better longer term infant outcome [2,3]. Moreover, the possibility of adverse outcome in subsequent pregnancies following the index CS one was not taken into account.

CSs are life saving in some instances, but also have side effects, ranging from direct maternal morbidity/ mortality and iatrogenic preterm delivery, to long term immunologic consequences for the infant, i.e. asthma, obesity and type-1 diabetes [4]. CSs are also related to infertility and spontaneous preterm delivery in a subsequent pregnancy, as well as to placenta previa, placenta accreta and uterine rupture [4]. Directly after publication of the TBT the CS rate for term breeches in the Netherlands increased from 50 to 80 %. We could calculate that this resulted in 2.000 extra SCs annually and that there were 11 less perinatal deaths [5]. So far, so good. But if half of these women would have a subsequent pregnancy, than this would result in around 10 uterine ruptures and one fetus dying because of this complication. More recent Dutch data indicate a number to treat of 338 CSs to prevent one fetal death [6], which is in line with a meta-analysis including observational studies in which it was found that the absolute risk of perinatal mortality of a trial of labour was about 0.3 % [7]. Again, assuming that half of these women will have a next pregnancy, than one can calculate that for about 70 fetuses "saved" by a CS, one woman will die in a subsequent pregnancy due to complications of placenta accreta/increta and hysterectomy [8]. The latter statistics is based on the Dutch figures and is not very precise, but to save 70 infants, 70 × 338 = 24.000 CSs have to be performed. If 12.000 of these women would have a next pregnancy, than there would be around 24 cases of placenta increta/hysterectomy, with a 4 % chance of the woman dying; i.e. one maternal death for about 70 infants "saved". Cases of maternal death in a pregnancy following a CS for breech position have indeed been published [9]. Progress in obstetrics is more difficult to achieve than initially assumed, in this case following publication of the TBT.

It is important to compare perinatal short and long term morbidity after CS as compared to a vaginal breech delivery. Short term perinatal morbidity, such as neonatal birth trauma is around 0.5 % higher after vaginal breech delivery than after electice CS [7]. But, if outcome of a subsequent pregnancy is included, than

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Table 1
Perinatal, maternal and longer term outcome of cesarean section as compared to planned vaginal breech delivery.

Caesarean section:	
Perinatal mortality	decreased (200–400 CS to prevent one perinatal death)
Direct perinatal morbidity	decreased (risk of neonatal birth trauma 0.5 % lower)
Maternal morbidity	increased
Immunological disturbances offspring	most likely increased
Subsequent pregnancy:	
Preterm delivery	increased
Perinatal complications	increased
Uterine rupture/plac accreta	increased
Maternal morbidity/mortality	increased

there may be no more differences anymore in perinatal mortality and morbidity, with a higher maternal morbidity in the CS group; these data are from a study with a preterm CS or preterm vaginal breech in the index pregnancy [10]. Impaired outcome in the subsequent pregnancy was mainly due to a higher incidence of preterm delivery in the CS group. These data are similar to other studies that found a 14 to 50 % higher incidence of preterm delivery following a previous CS [11–13]. Data from the publication on CS for preterm breech are limited in number, but suggest that advantages of an elective CS of a fetus in breech position may not outweigh increased risks in a subsequent pregnancy. More follow-up studies regarding perinatal outcome are essential, not only for breech position, but also as to pro's and con's of CS for other indications.

In the Table 1 advantages and disadvantages of CS for breech position are summarised. Most of the disadvantages relate to a subsequent pregnancy. This implies that counceling regarding CS or otherwise should concentrate on women who consider a future reproductive carreer. Counseling should be individualised and may be very different for a 23 year nulliparous woman as compared to a 38 year woman who does not wish to have more children in the future. Similarly, a Cochrane review from 2015 concluded that the benefits of a better direct perinatal outcome, should be weighed against factors such as the mother's preference for vaginal birth and risks such as future pregnancy complications [14].

French/Belgium data on outcome after a trial of labour of a fetus in breech position, did not show differences in outcome as compared to CS [15]. The authors conclude that in places where planned vaginal delivery is a common practice and when strict criteria are met before and during labour, (e.g. no hyperextension of the head, estimated fetal weight <3800 g, frank breech etc) vaginal delivery of singleton fetuses in breech position at term remains a safe option that can be offered to all women. Application of strict consensus criteria/guidelines is likely to have been instrumental to the favourable results of this study [16]. Data from Frankfort, published in this issue of the EJOG are in line with the French/Belgium results. Reintroduction of the vaginal breech in settings where most expertise has gone might be difficult. However, intense training using a mannequin is sufficient to master the manouvers necessary to deal with a complicated breech delivery. A senior experienced obstetrician should still be around, which may be considered inconvenient.

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