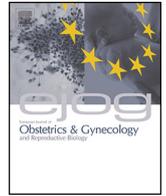


Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

# European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: [www.elsevier.com/locate/ejogrb](http://www.elsevier.com/locate/ejogrb)

## Invited Commentary

# Why not plan an elective Caesarean section for breech presentation at term – safety first?

Becky Liu<sup>1</sup>, Mercede Sebghati<sup>2</sup>, Asma Khalil<sup>1,2,\*</sup><sup>1</sup> Fetal Medicine Unit, St George's Hospital, St George's University of London, UK<sup>2</sup> Vascular Biology Research Centre, Molecular and Clinical Sciences Research Institute, St George's University of London, UK

## ARTICLE INFO

### Article history:

Received 17 March 2020

Accepted 24 March 2020

Breech presentation at term is present in 3–4% of the pregnant population. The optimal mode of delivery is currently still under debate amongst healthcare professionals. Following the Term Breech Trial<sup>1</sup>, common practice has swayed toward elective Caesarean sections, which have led to a reduction in the training and experience in performing vaginal breech deliveries.

The Term Breech Trial randomised 2088 women to planned vaginal or Caesarean deliveries, and found that perinatal and neonatal mortality, as well as serious perinatal morbidity were significantly decreased in the Caesarean delivery group (1.6% vs 5.0%, RR 0.33 [95% CI 0.19–0.56];  $p < 0.0001$ )<sup>1</sup>. These findings in turn significantly contributed to the Cochrane Database review, which showed a reduction in perinatal mortality from 1.3% to 0.3% in those who underwent planned Caesarean section<sup>2</sup>. A large meta-analysis consisting of 258,953 births in 27 studies also suggested that planned Caesarean delivery was the safer option, with a two- to five-fold reduction in perinatal mortality

when compared with vaginal deliveries<sup>3</sup>. The Term Breech Trial, however, is not without limitations. The main criticisms that followed the conclusions of this trial were that many patients did not undergo appropriate case selection with ultrasound, a lack of obstetrician presence, and many did not undergo intrapartum fetal heart monitoring<sup>4</sup>. The PREMODA study therefore included pregnant women who were selected after having satisfied the criteria of normal radiological pelvimetry, ultrasound, and electronic fetal monitoring (EFM). This observational study consisted of a larger cohort of 2526 vaginal and 5579 Caesarean breech deliveries. Although there was an increased incidence of low APGAR scores at 5 minutes (OR 3.20, 95% CI 1.93–5.3) and birth injuries (OR 3.90, 95% CI 2.40–6.34) in the vaginal delivery group, no difference in neonatal unit admissions or serious neonatal morbidity were found when comparing the groups (unadjusted OR = 1.10, 95% CI [0.75–1.61]), even after adjusting for confounding factors (adjusted OR = 1.40, 95% CI [0.89–2.23])<sup>5</sup>.

Despite these conflicting findings, a planned Caesarean delivery at 39 weeks will inevitably reduce the risk of perinatal mortality as a result of post-maturity and labour (by at least 1/1000<sup>6</sup>), despite the presentation.

*Our practice in the U.K.*

\* CORRESPONDING AUTHOR.: Telephone: (Work) +442032998256, Mobile: +447917400164. Fax: +442077339534 Professor Asma Khalil, Fetal Medicine Unit, St George's University of London, London SW17 0RE  
E-mail addresses: [akhaliil@sgul.ac.uk](mailto:akhaliil@sgul.ac.uk), [asmakhalil79@googlemail.com](mailto:asmakhalil79@googlemail.com) (A. Khalil).

Following the Term Breech Trial, there has been a significant decrease in vaginal breech deliveries. As a result, the skills for vaginal breech delivery have become scarcer, and more birth attendants have become inexperienced at vaginal breech delivery.

In the UK, planned vaginal breech births continue to be rare and attempts are made to reduce breech presentation at term by offering women found to have breech presentation External Cephalic Version (ECV) between 36 weeks and 37 weeks of gestation.<sup>7</sup>

A systematic review of eight trials including 1308 women demonstrated that ECV at term reduces non-cephalic presentation at delivery (RR 0.42, 95% CI 0.29–0.61). All these studies were randomised, included low-risk pregnancies and have provided convincing evidence that the chance of breech birth and caesarean section may be substantially reduced by attempting external cephalic version (ECV) at or near term.<sup>8</sup>

ECV is not practised in many parts of the world. In the UK, the views of obstetricians on ECV are generally positive, but there are some negative perceptions among women mainly due to negative lay accounts of ECV, the associated pain, risk of failure of ECV as well as risk of babies subsequently reverting to breech presentation.<sup>9</sup>

Women who have a breech presentation at term following a decline or unsuccessful ECV should be informed that planned Caesarean section leads to a small reduction in perinatal mortality compared with planned vaginal breech delivery. Women should be informed that this reduction is due to 3 factors: the avoidance of stillbirth after 39 weeks gestation, the avoidance of intrapartum risks and the risks of vaginal breech birth (which is the only factor unique to breech presentation).<sup>10</sup>

The Cochrane review concluded that planned caesarean compared with planned vaginal birth reduced perinatal or neonatal death as well as the composite outcome death or serious neonatal morbidity, at the expense of somewhat increased maternal morbidity<sup>2</sup>. Three trials (2396 participants) were included in the review. Caesarean delivery occurred in 550/1227 (45%) of those women allocated to a vaginal delivery protocol and 1060/1169 (91%) of those women allocated to planned caesarean section. Perinatal or neonatal death (excluding fatal anomalies) was reduced by 70% with planned caesarean section (RR 0.29, 95% CI 0.10 to 0.86, three studies, 2388 women). The proportional reductions were similar for countries with low and high national perinatal mortality rates.

Vlemmix et al. published a population-based cohort study of 58,320 non-anomalous term babies with breech presentations between 1997 and 2007 from the Netherlands Perinatal Registry, evaluating the effect of increased elective caesarean following the Term Breech Trial. The perinatal mortality of babies with breech presentation halved from 0.13% to 0.07% (OR 0.51, 95% CI 0.28–0.93). For planned vaginal breech birth, however, it remained

stable (OR 0.96, 95% CI 0.52–1.76). More importantly, the perinatal mortality was 0.16% in the planned vaginal birth group and 0% in the elective caesarean section group ( $P < 0.0001$ ) post publication of the Term Breech Trial report, although this mortality rate with vaginal delivery was notably lower than that reported in the Term Breech Trial (0.16% versus 1.3%). Elective caesarean also reduced the risk of low Apgar scores (less than 7 at 5 minutes; OR 0.12, 95% CI 0.09–0.16) and neonatal 'trauma' (OR 0.24, 95% CI 0.15–0.37) compared with planned vaginal birth. The authors estimated that 338 additional caesarean sections were performed for each perinatal death prevented.<sup>11</sup>

## Conclusion

Mode of delivery for breech presentation remains a much debated topic. Much research has concluded that planned caesarean section is the safest option and overall associated with lower perinatal mortality rates compared with vaginal breech deliveries. This reduced risk needs to, of course, be balanced against maternal risks associated with caesarean section as well as risks to future pregnancies of having a scarred uterus.

## References

- [1] Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, Saigal S, Willan AR. Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. Term Breech Trial Collaborative Group. *Lancet* 2000;356:1375–83.
- [2] Hofmeyr GJ, Hannah M, Lawrie TA. Planned caesarean section for term breech delivery. *Cochrane Database Syst Rev* 2015(7)CD000166.
- [3] Berhan Y, Haileamlak A. The risks of planned vaginal breech delivery versus planned caesarean section for term breech birth: a meta-analysis including observational studies. *BJOG* 2016;123:49–57.
- [4] Su M, McLeod L, Ross S, Willan A, Hannah WJ, Hutton E, et al. Term Breech Trial Collaborative Group. Factors associated with adverse perinatal outcome in the Term Breech Trial. *Am J Obstet Gynecol* 2003;189:740–5.
- [5] Goffinet F, Carayol M, Foidart JM, Alexander S, Uzan S, Subtil D, et al. PREMODA Study Group. Is planned vaginal delivery for breech presentation at term still an option? Results of an observational prospective survey in France and Belgium. *Am J Obstet Gynecol* 2006;194:1002–11.
- [6] Smith GC. Life-table analysis of the risk of perinatal death at term and post term in singleton pregnancies. *Am J Obstet Gynecol* 2001;184:489–96.
- [7] Royal College of Obstetricians and Gynaecologists. External Cephalic Version and Reducing the Incidence of Term Breech Presentation. Green-top Guideline No. 20a. London: RCOG; 2017.
- [8] Hofmeyr GJ, Kulier R, West HM. External cephalic version for breech presentation at term. *Cochrane Database Syst Rev* 2015(4)CD000083.
- [9] Say R, Thomson R, Robson S, Exley C. A qualitative interview study exploring pregnant women's and health professionals' attitudes to external cephalic version. *BMC Pregnancy Childbirth* 2013;13:4.
- [10] Royal College of Obstetricians and Gynaecologists. Management of Breech Presentation. Green-top Guideline No. 20b. London: RCOG; 2017.
- [11] Vlemmix F, Bergenhenegouwen L, Schaaf JM, Ensing S, Rosman AN, Ravelli AC, et al. Term breech deliveries in the Netherlands: did the increased cesarean rate affect neonatal outcome? A population-based cohort study. *Acta Obstet Gynecol Scand* 2014;93:888–96.