



## VAGINAL TERM BREECH DELIVERY, A FOOLHARDY OPTION OR AN OPPORTUNITY?

The practice of obstetrics took a radical turn during the 20th century as a result of two circumstances: undeniable safety of cesarean section due to the dizzying speed of operating theater advances, and the arrival of ultrasound as a diagnostic modality which diminished the role of chance in a practice heretofore filled with unexpected surprises (1). Therefore, for the 21st century, the hope is that conditions which were determining factors for maternal and perinatal mortality in the past will disappear (2): giant moles, post-mature neonate, fetal demise and retention-related coagulopathy, high forceps, neglected transverse position, ruptured ectopic pregnancy, and the tempestuous eclampsia.

But the 21st century did not only bring with it the boom of technological development (3). The publication of the “Term Breech Trial” (TBT) came with the dawn of the millennium (4), bringing the proposal of a change in the art of waiting in breech delivery care, as suggested by Erick Bratch since the first half of the past century (5). The TBT study compared the safety and effectiveness of elective cesarean section versus elective vaginal delivery in patients with term gestation and live singleton breech fetus. The surgical intervention was carried out at 38 weeks or before in case of labor, while patients assigned to vaginal delivery waited until the spontaneous initiation of uterine activity or the presence of any indication for induction (i.e., post-term fetus). The delivery protocol included the use of oxytocin, prostaglandins or amniotomy;

intermittent fetal auscultation or continuous fetal monitoring; analgesia or anesthesia; control of rate of dilation and descent; and emergent cesarean section in the event of any other indication. As an overarching conclusion, this trial documented a lower frequency of serious neonatal mortality and morbidity (relative risk [RR] = 0.23; 95% CI 0.07-0.81 and RR = 0.36; 95% CI 0.19-0.65, respectively) in neonates assigned to cesarean section, with no apparent differences in the frequency of death or neurodevelopmental delay after two years of follow-up (RR = 1.09; 95% CI: 0.52-2.30). These conclusions resulted in a dramatic drop in the frequency of vaginal delivery in cases of breech presentation (6).

But the controversy did not come to an end, and study flaws (7, 8) such as non-adherence to inclusion and exclusion criteria; failures in the delivery care protocol; participation of lay professionals; incomplete data biases and early termination of the study due to apparent benefit, kindled the discussion regarding the validity of the findings and their impact on obstetric practice (8). This gave rise to the initiative of developing a prospective cohort study to address those flaws.

Thus, the Premoda study (Presentation and Mode of Delivery) was designed to compare the safety of vaginal delivery versus cesarean section in pregnant women with single term singleton breech fetuses (alive or not), abiding by the precepts of the French school (adequate pelvic measurement; no fetal head extension; estimated fetal weight between 2500 and 3800 g; overt breech presentation

and continuous fetal monitoring) (9). This study, which included 2502 pregnant women in the vaginal delivery cohort and 5573 in the cesarean section cohort, did not report apparent differences between the groups in terms of fetal or neonatal death (odds ratio [OR] = 0.64; 95% CI: 0.13-3.06) or for the composite endpoint of fetal or neonatal morbidity and mortality (OR = 1.10; 95% CI: 0.75-1.61). True to its objective, it addressed some of the flaws of the TBT (4, 9), given that 92% of the deliveries were attended to by an expert obstetrician; fetal wellbeing was monitored and pelvic measurement was more the norm than the exception, rescuing breech delivery from the operating room back to the delivery suite and highlighting the pressing need for teaching this classical obstetric practice (8) and applying it in adequately selected patients (9). But not all that glitters is gold and not all good intentions materialize into good results. On account of the selected design (10), the groups exhibited substantial differences in terms of prognostic variables and they were also prone to performance bias due to deviation of the assigned intervention (10). These flaws are poignant reminders of the bitter experience within the TBT. Thus, the knowledge gap persisted and, again, clinicians were left waiting for the strong evidence on which to base their decision-making.

Two decades after the publication of both studies, breech deliveries continue and will continue to occur as a result of the ignored or even abandoned external cephalic version (11); failed timely identification of presentation (lack of knowledge of obstetric semiology) (8); arrival in advanced labor in cases of breech presentation (8) (forcing the obstetricians to know the mechanism and management of the pregnant woman); and, to a lesser degree, the choice of a few women who refuse to undergo a surgical procedure (12).

Consequently, it is easy to understand why the American College of Obstetricians and Gynecologists believe that “current evidence shows short-

term benefits in neonatal and maternal mortality for cesarean delivery”, but “long-term benefits for neonates and mothers are less clear” and, therefore, planned vaginal delivery of a term singleton breech fetus could be reasonable, following specific guidelines [...] The decision regarding the mode of delivery should consider patient wishes and the experience of the health care provider.” (13) These series of recommendations are in agreement with the tenets of Robson’s classification system (14), in which breech presentation is divided into group 6 for nulliparous women and group 7 for multiparous women (8), pointing to a differential approach based on a prognostic factor. Therefore, breech presentation could be considered as an absolute indication for cesarean section under certain circumstances, but vaginal delivery could have a clear place in other appropriately selected patients (15).

Consequently, the best settings for the practice and learning of the good art of obstetrics need to be found. This issue of the *Colombian Journal of Obstetrics and Gynecology* is a recap of a clinical practice of the past - germane to a speciality rich in semiological details as is obstetrics - ruled by clinical principles and governed by the legacy of giants who exercised their skill around their spatial orientation, their ability to hone on the details by means of palpation and digital sensitivity and their accurate knowledge of delivery mechanisms.

Obstetric semiology is inherent to the delivery room, an integral part of prenatal care, and sheds light on a practice that is sensitive to general considerations but rich in measurements, parameters and perceptions. The relevance of an education article on breech delivery care is that it allows to recap and rescue forgotten semiological details: breech presentation landmarks, modes of presentation, position variations, intertrochanteric diameter, intergluteal cleft, *in utero* fetal cephalic deflection, nuchal arm extension, lower scapular angle, and other details mentioned in the article. As educators, we have the duty to return to the classical objective knowledge

which characterizes the experts: the semiological wealth of sacral variations, labor mechanisms in breech presentation, and the main obstetric maneuvers at the time of delivery, in the real and practical setting of this dystocic presentation.

It may be that a new generation of obstetricians with little skills for breech deliveries are coming on stage, creating a higher risk for these fetuses (8). To avoid this situation, it behooves educators to ensure that all obstetricians in training develop the ability to manage breech deliveries (16). Opportunities to attend to the cases under supervision are the only way in which residents can become comfortable with the management of these cases. Our profession as instructors and specialists in the art of obstetrics is a very demanding one; we are called upon to protect the future of our country by making sure that the coming generations are born under optimal oxygenation conditions. We build the future of nations in the delivery room.

Safe care in breech vaginal delivery is a prevailing issue which fell into oblivion because of the current practice of cesarean sections which has numbed the creativity and clinical judgement of modern obstetricians. Perhaps the time is ripe for the rebirth of a lost knowledge needed in a world rendered simple by the easy way out. Let us reflect about our daily lives and not forget the past, a heritage of mankind.

## REFERENCES

1. Sedano M, Sedano C, Sedano R. Reseña histórica e hitos de la obstetricia. *Revista Médica Clínica Las Condes*. 2014;25(6):866-73. 10.1016/S0716-8640(14)70632-7
2. Chamberlain G. British maternal mortality in the 19th and early 20th centuries. *J R Soc Med*. 2006;99(11):559-63. 10.1258/jrsm.99.11.559
3. Raitt, D. The greatest engineering achievements of the twentieth century. *Int J Entrepren Behav Res*. 2000;6(1). <https://doi.org/10.1108/ijeb.2000.16006aaa.001>
4. 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 multi-centre trial. *Term Breech Trial Collaborative Group. Lancet*. 2000; 356:1375-83.
5. Dunn PM. Erich Bracht (1882-1969) of Berlin and his "breech" manoeuvre. *Arch Dis Child Fetal Neonatal Ed*. 2003;88(1):F76-7
6. Impey LWM, Murphy DJ, Griffiths M, Penna LK on behalf of the Royal College of Obstetricians and Gynaecologists. Management of Breech Presentation. *BJOG* 2017; 124: e151-e177.
7. Glezerman M. Five years to the term breech trial: The rise and fall of a randomized controlled trial. *Am J Obstet Gynecol*. 2006;194(1):20-5.
8. Lawson GW. The term breech trial ten years on: *Primum non nocere?* *Birth*. 2012;39(1):3-9. 10.1111/j.1523-536X.2011.00507.x
9. 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(4):1002-11.
10. Sterne JAC, Hernán MA, Reeves BC, Savović J, Berkman ND, Viswanathan M, et al. ROBINS-I: A tool for assessing risk of bias in non-randomized studies of interventions. *BMJ*. 2016;355:i4919. 10.1136/bmj.i4919
11. de Hundt M, Vezel J, de Groot CJ, Mol BW, Kok M. Mode of delivery after successful external cephalic version: A systematic review and meta-analysis. *Obstet Gynecol*. 2014;123:1327-34.
12. Keag OE, Norman JE, Stock SJ. Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: Systematic review and meta-analysis. *PLoS Med*. 2018;15(1):e1002494. 10.1371/journal.pmed.1002494
13. ACOG Committee Opinion No. 745: Mode of term singleton breech delivery. *Obstet Gynecol*. 2018;132:e60-e63.

14. La clasificación de Robson: Manual de aplicación. Washington, D.C.: Organización Panamericana de la Salud; 2018.
15. 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.
16. Bergsjo P. Breech births at term revisited: New contributions from Finland and Norway. *Acta Obstet Gynecol Scand.* 2004;83:121-3.

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