

## Brief Report

### Is the art of assisted breech delivery still fading in the Kingdom of Saudi Arabia?

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Cases of breech presentation at term which constitute from 3-5% of all term pregnancies are still considered to be stressful situations for attending obstetricians because of their decreasing practice and experience in the mode of breech delivery.<sup>1,2</sup> Due to this lack of exposure, obstetric skills and confidence essential for ensuring safe term breech delivery are at a threat of disappearing and there is an increased chance of planned cesarean delivery (CD) which has adverse long-term sequelae on the mother and neonate. It has in fact been documented that the rates of CD in the Kingdom of Saudi Arabia (KSA) for breech presentation are increasing.<sup>3</sup> The objective of this report is to reiterate that continuing the practice of certain procedures, namely, external cephalic version (ECV) or vaginal breech delivery (VBD) while applying certain selection criteria will preserve valuable obstetric skills, increase the likelihood of safe delivery and likely decrease CD rates in KSA.

Breech presentation is associated with uterine and congenital abnormalities and has a significant recurrence risk.<sup>4</sup> Maternal factors associated with breech presentation include nulliparity, multiparity, previous breech birth, contracted maternal pelvis, uterine anomalies, use of anticonvulsant drugs, placenta previa, and cornual placenta. Fetal factors contributing to breech presentations include variations in amniotic fluid volume, fetal prematurity, short length of umbilical cord, decreased fetal activity, impaired fetal growth, extended fetal legs, fetal anomaly, fetal neck mass (namely, enlarged fetal thyroid gland), and fetal death.<sup>1</sup>

The term fetuses presenting by breech have worse outcomes than cephalic presenting ones, irrespective of the mode of delivery although it is unclear whether this is due to underlying conditions (perhaps the very factors that caused the breech presentation in the first place) that make them vulnerable, or the effects of delivery in this position.<sup>1,4</sup> However, care during labor, delivery methods used, and obstetric skills may also influence outcome.<sup>1</sup>

**Disclosure.** Authors have no conflict of interest, and the work was not supported or funded by any drug company.

Some fetuses will spontaneously turn to a cephalic position before birth, while others can be rotated using the ECV procedure. However, for those fetuses that persist in the breech position, the options are to deliver the fetus vaginally or by cesarean section (CS).<sup>1</sup>

Vaginal breech delivery has been a controversial topic for a long time. The international randomized term breech trial published in 2000, which showed that perinatal mortality, neonatal mortality, and serious neonatal morbidity was significantly lower for the planned CS group than for the planned vaginal birth group resulted in the systematic planning of CDs for breech presentation and significantly decreased the global rates of vaginal breech delivery.<sup>2</sup>

Nevertheless, due to various circumstances such as contraindications for CS, lack of surgical resources or time, vaginal breech births will continue. This is occurring in a setting of disappearing experience and skills essential for these deliveries and simultaneous mounting international concern over increasing maternal morbidity and mortality (namely, maternal hemorrhage and abnormal adherent placentation) due to planned cesareans-irrespective of fetal presentation. It is feared that with a policy of routine CS for breech presentation at term, with time, the clinical skills of vaginal breech delivery will be lost and women who deliver vaginally will be placed at increased risk.<sup>1</sup>

In KSA, Al Rowaily et al,<sup>4</sup> reported the alarming increased rate of CS which in 2007 exceeded 20% above the recommendations of the World Health Organization (WHO) that does not exceed 15%. In their retrospective study of a total of 22,595 deliveries from 2008-2011 at King Abdulaziz Medical City, Riyadh, KSA, Al Rowaily et al,<sup>4</sup> found that 4,305 (19.05%) deliveries were by CS. Of these, 67% were emergency and the remaining 33% were elective. Breech presentation accounted for 20.4% of elective CD's and 11.6% of emergency CD's. High gravidity was found to be a significant predictor of adverse maternal outcomes.<sup>3</sup> The increasing rate of CDs in KSA for breech presentation is worrisome since high parity, a predisposing factor for breech presentation, is commonly found in the Saudi maternal population.

External cephalic version is a procedure by which the fetus is manipulated from the breech position to cephalic presentation through the maternal abdomen. It has been proven by many studies to be safe and effective in leading to cephalic vaginal delivery and preventing vaginal breech births and CSs.<sup>2,4</sup> In a study by Anglim,<sup>2</sup> whose main objective was to assess the success rates of ECV in a large tertiary maternity hospital in relation to parity, mode of tocolytic, maternal body mass index (BMI) and operator skills, ECV success rates varied

between 30-80%. Rates were increased in women who were multiparous, had flexed breeches, posterior placenta, anterior fetal back, non-engagement of the presenting part, palpable fetal head, amniotic fluid index of greater than 10 cm, a thin maternal abdomen and in the cases of involvement of experienced obstetric staff. Furthermore, Anglim,<sup>2</sup> concluded that their study affirmed what previous studies of 1,078 consecutive ECVs had already shown which was that there was no excess of intrauterine fetal deaths related to the procedure. In this study there were no emergency CD's following ECV, no admissions to the neonatal intensive care unit and no intrauterine fetal deaths. Anglim,<sup>2</sup> reported that multiparity was the strongest predictor of successful ECV. They also recommended ECV to be offered to all women with breech presentation at term in the absence of contraindications, that experienced, well-trained obstetric staff be available in tertiary units to offer this service and that they accept referrals from smaller hospitals who do not offer this service.

The Royal College of Obstetricians & Gynecologists (RCOG) March 2017 guidelines also cited high success rates for ECV when performed at 36 weeks of gestation and recommended that it be offered from 36 weeks in nulliparous women and from 37 weeks in multiparous women.<sup>2,4</sup>

However, despite the proven safety and efficacy of ECV in preventing vaginal breech births and CSs, there is still a low rate of ECV practice in women with breech presentation although exact figures are not available.<sup>2</sup> The RCOG states that rates of ECV could be improved foremost by the timely identification of breech fetuses. It further recommends that a structured ECV service with adequately trained obstetric practitioners instituted in hospitals and that detailed written information on the description, benefits and risks of ECV including success rates and outcomes made available to women with breech pregnancies so that an informed choice can be made before their time of delivery.<sup>4</sup> External cephalic version is not universally acceptable to women. Some women decline ECV due to fear of pain and vaginal birth, and accounts of other women's experiences. The rates of pain experienced by women in trials vary greatly with some trials reporting that one-third of women experienced significant pain and another trial reporting that 75% of women found the procedure to be uncomfortable or worse, and that 5% of women reported high pain scores.<sup>4</sup> Therefore, proper patient counselling about the availability of pain-relieving analgesics is important to alleviate patient concern and

deter from patient reluctance to undergo ECV based solely on fear from possible pain or discomfort during the procedure.

External cephalic version is contraindicated where an absolute reason for CS already exists (namely, placenta praeviamajor). It is generally considered to be contraindicated in a multiple pregnancy (except after delivery of the first twin), in cases of rhesus isoimmunization, vaginal bleeding which is current or recent (less than one week), abnormal electronic fetal monitoring (EFM), rupture of the membranes, or where the mother has not given informed consent for ECV. Extra care and caution during ECV should be exercised where there is oligohydramnios or hypertension.<sup>4</sup>

In regards of the safety of vaginal breech delivery, a 2015 Cochrane review reported that the 2-year follow-up of the term breech trial as well as the results of other cohort studies have demonstrated that with experience and better maternal screening, vaginal and CD can be equally safe for the neonate with the former avoiding the maternal morbidity and mortality associated with CDs. The cochrane review mentions an observational prospective study conducted in France and Belgium in 174 maternity units where vaginal breech birth was commonly practised. This study included 8105 pregnant women delivering singleton term breech fetuses. The composite outcome, fetal and neonatal mortality and severe neonatal morbidity, was low in both groups. In the planned vaginal delivery group it was 1.60% which was not significantly different from that in the planned CD group (unadjusted odds ratio (OR)=1.10, adjusted OR=1.40). The authors concluded that "where planned vaginal delivery is a common practice and when strict criteria are met before and during labor, planned vaginal delivery of singleton fetuses in breech presentation at term remains a safe option".<sup>1</sup>

Given that vaginal breech delivery will continue to take place, research on techniques to improve the safety of breech delivery and improve fetal outcome are needed. A retrospective study by Louwen et al,<sup>5</sup> studied the effect of upright vaginal breech delivery on 750 women who presented for singleton breech delivery at a center in Frankfurt, Germany, between January 2004 and June 2011. Upright vaginal breech delivery was associated with reductions in duration of the second stage of labor, use of breech maneuvers required, maternal/neonatal morbidities, and cesarean rate when compared with vaginal delivery in the dorsal position. Such a maneuver can be a part of antenatal patient education offered to women who have breech

presentation. Selection criteria for VBD should include; breech presentation in active stage of labor, no medical contraindication for vaginal delivery, type of breech, informed consent and radiologically-evaluated and if not possible then at least clinically-evaluated pelvis.<sup>5</sup>

In conclusion, although breech presentation is not very common, nevertheless it has been associated with adverse perinatal outcome and its incidence is expected to continue. Obstetric training in the practice of ECV so as to avoid VBD and in the art of VBD itself should be maintained at tertiary care centers. Otherwise these valuable clinical skills will be lost placing women who deliver vaginally at increased risk and unnecessarily increase rates of CD which carries the risk of increased maternal and fetal morbidity. Adequate patient counselling on the benefits and risks of ECV and VBD is important to aid in informed individualized decision-making regarding breech delivery. Regarding the KSA where CD rates for breech presentation are high, it is recommended to conduct further randomized, multi-center studies aimed at studying the effect of institutionalizing ECV and VBD practice on CD rates which would also provide updated national figures for rates of CD, ECV and VBD.

Received 8th July 2018. Accepted 29th August 2018.

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