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Mode of Term Singleton Breech Delivery

ABSTRACT: *In light of recent studies that further clarify the long-term risks of vaginal breech delivery, the American College of Obstetricians and Gynecologists recommends that the decision regarding mode of delivery should depend on the experience of the health care provider. Cesarean delivery will be the preferred mode for most physicians because of the diminishing expertise in vaginal breech delivery. Planned vaginal delivery of a term singleton breech fetus may be reasonable under hospital-specific protocol guidelines for both eligibility and labor management. Before a vaginal breech delivery is planned, women should be informed that the risk of perinatal or neonatal mortality or short-term serious neonatal morbidity may be higher than if a cesarean delivery is planned, and the patient's informed consent should be documented.*

During the past decade, there has been an increasing trend in the United States to perform cesarean delivery for term singleton fetuses in a breech presentation. In 2002, the rate of cesarean deliveries for women in labor with breech presentation was 86.9% (1). The number of practitioners with the skills and experience to perform vaginal breech delivery has decreased. Even in academic medical centers where faculty support for teaching vaginal breech delivery to residents remains high, there may be insufficient volume of vaginal breech deliveries to adequately teach this procedure (2).

In 2000, researchers conducted a large, international multicenter randomized clinical trial comparing a policy of planned cesarean delivery with planned vaginal delivery (Term Breech Trial) (3). These investigators noted that perinatal mortality, neonatal mortality, and serious neonatal morbidity were significantly lower among the planned cesarean delivery group compared with the planned vaginal delivery group (17/1,039 [1.6%] versus 52/1,039 [5%]), although there was no difference in maternal morbidity or mortality observed between the groups (3). The benefits of planned cesarean delivery remained for all subgroups identified by the baseline variables (eg, older and younger women, nulliparous and multiparous women, frank and complete type of breech presentation). They found that the reduction in risk attributable to planned cesarean delivery was greatest among centers in industrialized nations with low overall perinatal mortality rates (0.4% versus

5.7%). In countries with low perinatal mortality rates, the reduction in risk was driven primarily by the pooled rates of perinatal or neonatal mortality and serious neonatal morbidity, rather than by the rates of mortality alone (0% versus 0.6%). Given the results of this exceptionally large and well-controlled clinical trial, the American College of Obstetricians and Gynecologists' Committee on Obstetric Practice in 2001 recommended that planned vaginal delivery of a term singleton breech was no longer appropriate.

Since that time, there have been additional publications that modify the original conclusions of the 2000 Term Breech Trial. The same researchers have published three follow-up studies examining maternal outcomes at 3 months postpartum, as well as outcomes for mothers and children 2 years after the births (4–6). At 3 months postpartum, the risk of urinary incontinence was lower for women in the planned cesarean delivery group; however, there was no difference at 2 years. At 2 years postpartum, maternal morbidity, which was assessed via questionnaire in 917 of 1,159 (79.1%), was not different for most maternal parameters, including breastfeeding, pain, depression, menstrual problems, fatigue, and distressing memories of the birth experience (5).

The follow-up study to address outcomes of the children at 2 years involved 85 centers (with both high and low perinatal mortality rates) that were chosen at the start of the original trial. Most children, 923 of 1,159 (79.6%), were assessed first by a screening questionnaire (Ages and Stages) that was completed by their parents (4). All abnormal results were further evaluated with a clinical neurodevelopment assessment. The risk of death or neurodevelopmental delay was no different in the planned cesarean delivery group compared with the planned vaginal delivery group (14 children [3.1%] versus 13 children [2.8%]; relative risk, 1.09; 95% CI, 0.52–2.30; $P = 0.85$). There are several explanations for this seemingly contradictory finding. The follow-up study was underpowered to show a clinically important benefit from cesarean delivery if this were true. Only 6 of the 16 infants who died in the neonatal period were from centers participating in the follow-up to 2 years (one in the planned cesarean delivery group, five in the planned vaginal delivery group), and most of the children with serious neonatal morbidity after birth survived and developed normally. In this cohort, 17 out of 18 children with serious morbidity in the original study were normal at this 24-month follow-up.

Another explanation is that the use of pooled mortality and morbidity data at the time of birth overstated the true long-term risks of vaginal delivery (7).

A recent retrospective observational report reviewed neonatal outcome in the Netherlands before and after the publication of the Term Breech Trial (8). Between 1998 and 2002, 35,453 term infants were delivered. The cesarean delivery rate for breech presentation increased from 50% to 80% within 2 months of the trial's publication and remained elevated. The combined neonatal mortality rate decreased from 0.35% to 0.18%, and the incidence of reported birth trauma decreased from 0.29% to 0.08%. Of interest, a decrease in mortality also was seen in the emergency cesarean delivery group and the vaginal delivery group, a finding that the authors attribute to better selection of candidates for vaginal breech delivery.

There are many retrospective reports of vaginal breech delivery that follow very specific protocols and note excellent neonatal outcomes. One report noted 298 women in a vaginal breech trial with no perinatal morbidity and mortality (9). Another report noted similar outcomes in 481 women with planned vaginal delivery (10). Although they are not randomized trials, these reports detail the outcomes of specific management protocols and document the potential safety of a vaginal delivery in the properly selected patient. The initial criteria used in these reports were similar: gestational age greater than 37 weeks, frank or complete breech presentation, no fetal anomalies on ultrasound examination, adequate maternal pelvis, and estimated fetal weight between 2,500 g and 4,000 g. In addition, the protocol presented by one report required documentation of fetal head flexion and adequate amniotic fluid volume, defined as a 3-cm vertical pocket (9). Oxytocin induction or augmentation was not offered, and strict criteria were established for normal labor progress.

In light of the recent publications that further clarify the long-term risks of vaginal breech delivery, the American College of Obstetricians and Gynecologists' Committee on Obstetric Practice issues the following recommendations:

- The decision regarding the mode of delivery should depend on the experience of the health care provider. Cesarean delivery will be the preferred mode of delivery for most physicians because of the diminishing expertise in vaginal breech delivery.

- Obstetricians should offer and perform external cephalic version whenever possible.
- Planned vaginal delivery of a term singleton breech fetus may be reasonable under hospital-specific protocol guidelines for both eligibility and labor management.
- In those instances in which breech vaginal deliveries are pursued, great caution should be exercised, and detailed patient informed consent should be documented.
- Before embarking on a plan for a vaginal breech delivery, women should be informed that the risk of perinatal or neonatal mortality or short-term serious neonatal morbidity may be higher than if a cesarean delivery is planned.
- There are no recent data to support the recommendation of cesarean delivery to patients whose second twin is in a nonvertex presentation, although a large multicenter randomized controlled trial is in progress (www.utoronto.ca/miru/tbs).

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