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THE MANAGEMENT OF BREECH PRESENTATION

1. Introduction

The incidence of breech presentation is about 20% at 28 weeks. Most of the fetuses turn spontaneously, so the incidence at term is 3–4%. It has been widely recognised that there is higher perinatal mortality and morbidity with breech presentation, due principally to prematurity, congenital malformations and birth asphyxia or trauma.^{1,2} Breech presentation, whatever the mode of delivery, is a signal for potential fetal handicap and this should inform antenatal, intrapartum and neonatal management.³ Caesarean section for breech presentation has been suggested as a way of reducing the associated fetal problems² and in many countries in northern Europe and North America caesarean section has become the normal mode of delivery in this situation.

2. Identification and assessment of evidence

The Cochrane Library, including the Cochrane Register of Controlled Trials, was searched for relevant randomised controlled trials (RCTs), systematic reviews and meta-analyses. A search of MEDLINE from 1966–2001 was also carried out. The author also liaised with the MIDIRS midwifery database and used the results of their latest search (November 1999). MIDIRS hand searches 300 journals in-house. Contents pages of a further 150 journal titles were scanned on-line and copies of relevant articles obtained. Coverage is English language journals worldwide and includes the majority of midwifery and obstetrics journals, plus a selection of other general medical and specialist journals on subjects including epidemiology, primary health, health education, statistics, dietetics, anaesthesia and ultrasound. Items added to the MIDIRS database all include an abstract or short summary and are indexed using indexing terms based on the MeSH headings used in Medline.

The databases were searched using the relevant MeSH terms: breech presentation, version, fetal, tocolysis and tocolytic agents. This was combined with a keyword search using: breech, external cephalic version, tocolysis; and limiting the search to human.

3. Reducing the incidence of breech presentation

3.1 Using posture

A There is no evidence to support routine recommendation of the knee–chest position.

Four randomised trials have been undertaken to establish whether or not postural management (knee–chest position) is effective in converting breech to cephalic presentations. In these studies no significant benefits were found.⁴

Evidence
Level
1a

3.2 Using external cephalic version (ECV)

A All women with an uncomplicated breech pregnancy at term (37–42 weeks) should be offered ECV.

ECV has been practised since the time of Hippocrates and through the European Middle Ages |

4. Elective caesarean section versus planned vaginal breech delivery at term

A The best method of delivering a term frank or complete breech singleton is by planned caesarean section.

The management of breech pregnancy at term was reviewed in 1993.² In the two small randomised trials published by then, which compared elective caesarean section and planned vaginal delivery, no differences in mortality between the groups were seen, but an increase in short-term morbidity was noted in those babies delivered vaginally.²⁹ Much of the remaining evidence supporting elective caesarean section comprised hospital audit, which revealed outcomes for vaginal delivery and delivery by caesarean section rather than comparing a policy of intended caesarean section with a policy of intended vaginal birth.^{30,31} Against this background, the Canadian MRC funded an international multicentre RCT of planned vaginal delivery versus planned elective caesarean section for the uncomplicated term breech. The Term Breech trial was stopped early in April 2000 because it confirmed that vaginal delivery is indeed more hazardous than elective caesarean section.³² The overall risk of perinatal death for the term frank/complete breech fetus with planned caesarean birth was reduced by 75% (RR 0.23; CI 0.07–0.8).

Evidence
Level
Ib

A subanalysis was undertaken after excluding the following cases: deliveries that occurred after a prolonged labour, labours that were induced or augmented with oxytocin or prostaglandins, cases where there was a footling or uncertain type of breech presentation at delivery, and those cases for whom there was no skilled or experienced clinician present at the birth. In this subanalysis, the risk of the combined outcome of perinatal mortality, neonatal mortality or serious neonatal morbidity with planned caesarean section compared with planned vaginal birth was 16/1006 (1.6%) compared with 23/704 (3.3%) (RR 0.49; CI 0.26–0.91); $P = 0.02$). In a further subanalysis, results were separated into those obtained in countries with higher perinatal mortality (> 20/1000) and those from countries with a lower perinatal mortality ($\leq 20/1000$). The findings suggested that the benefits of delivery by caesarean section were not as significant in countries with a higher perinatal mortality rate. Conversely, they became even more significant in countries with a low perinatal mortality rate.³³ There were no differences between groups in terms of maternal mortality or serious early maternal morbidity.

Evidence
Level
Ib

It should be noted that this study has not evaluated long-term outcomes for child or mother. A number of other important questions were raised in subsequently published correspondence in *The Lancet*.³⁴ Although it is possible that careful exclusion of growth restricted infants, better intrapartum monitoring, full pelvimetry and umbilical cord assessment might have improved the prospects for a vaginal breech delivery,³⁴ the results of the trial lead to an inescapable recommendation that 'the best method of delivering a term frank or complete breech singleton is by planned LSCS'. This finding should be disseminated to pregnant women, their families, and all clinicians involved in maternity care.³³

Evidence
Level
Ib

It has been suggested that the Term Breech trial, by reflecting conventional 'expert' views, sanctioned the conventional dorsal lithotomy position for delivery, and thereby missed an opportunity to evaluate labour and delivery in upright positions (considered by some to be physiologically and anatomically more sound).³⁵ Clearly, this is an area that would require further research by those clinicians and women who remain in equipoise.

It remains possible that women will choose to deliver vaginally and that some women for whom a caesarean section is planned will labour too quickly for the operation to be undertaken (nearly 10% of women assigned to deliver by caesarean section in the Term Breech trial delivered vaginally).

It remains important that clinicians and hospitals are prepared for vaginal breech delivery.

4.1 Selection of patients

C A trial of labour should be precluded in the presence of medical or obstetric complications that are likely to be associated with mechanical difficulties at delivery.

Important issues to consider when planning a vaginal birth are the careful selection of patients, appropriate intrapartum management and the skill, experience and judgements of the intrapartum attendant.

Evidence
Level
III

A trial of vaginal breech delivery is more likely to be successful if both mother and baby are of normal proportions.^{36,37} The presentation should be either frank (hips flexed, knees extended) or complete (hips flexed, knees flexed but feet not below the fetal buttocks). There should be no evidence of fetopelvic disproportion with a clinically 'adequate' pelvis. Clinical judgement is adequate and pelvimetry need not be used routinely.³⁸ Although X-ray pelvimetry has figured prominently in protocols for planned vaginal birth, none of these studies was able to confirm the value of this examination in selecting those women who were more likely to succeed in a trial of labour or to have any effect on perinatal outcome.³⁷ In a subanalysis of the Term Breech trial the use of radiological pelvimetry was not linked to improved outcome. There should be no evidence of hyperextension of the fetal head.^{37,39} Ophir *et al.*⁴⁰ offered 66% of patients with a previous caesarean section a trial of labour, of whom 79% delivered their breech infants vaginally. A trial of labour should be precluded in the presence of medical or obstetric complications which are likely to be associated with mechanical difficulties at delivery.³⁷

Evidence
Level
III

4.2 Intrapartum management



There is no evidence that epidural analgesia is essential and, in selected cases, induction or augmentation may be justified. Fetal blood sampling from the buttocks provides an accurate assessment of the acid-base status, when the fetal heart rate trace is suspect.

In the Canadian consensus of breech management at term,³⁷ further guidelines on intrapartum management were drawn up. Careful monitoring of fetal wellbeing and progress of labour were emphasised. There is no evidence that epidural analgesia is essential and, in selected cases, induction or augmentation may be justified. Fetal blood sampling from the buttocks provides an accurate assessment of the acid-base status, when the fetal heart rate trace is suspect.⁴¹ In the Term Breech trial, the most common reasons for emergency caesarean section were 'failure to progress' (50%) and 'fetal distress' (29%). In the seventh Annual Report of the Confidential Enquiry into Stillbirth and Deaths in Infancy,⁴² the single and most avoidable factor in causing breech stillbirths and death among breech babies was suboptimal care in labour. In cases where the cardiotocograph was available for review, there was clinical-evidence of hypoxia in all but one case before delivery, and delays in staff response to fetal compromise occurred in nearly three-quarters of cases. These delays ranged from 30 minutes to ten hours. Consultants were informed in only half of these cases before delivery. Clinical inexperience at the time of delivery exacerbated the risk for an already hypoxic baby in some cases. Trauma was the sole cause of death in only one case.

Evidence
Level
IV

To facilitate delivery of the head an episiotomy is often performed. In about 20% of cases forceps are used.³² Although much emphasis is placed on adequate case selection prior to labour, assessment of the undiagnosed breech in labour by experienced medical staff can allow safe vaginal delivery.⁴³

Evidence
Level
III

4.3 Training: skill, experience and judgement of the intrapartum attendant



Any woman who gives birth to a breech vaginally should be cared for by an attendant with suitable experience.

Over the last ten years there have been major changes in the management of breech pregnancies and the organisation of junior doctors' work patterns. There are already a reduced number of vaginal breech deliveries managed by an increased number of trainees, who do fewer hours. On reviewing trainee logbooks from one busy district general hospital (1987 and 1997), it appears that there has been a ten-fold reduction in vaginal breech delivery experience for UK registrars. Clearly, the numbers of vaginal breech deliveries will fall further following the Term Breech trial. Alternative methods of training urgently need to be introduced (e.g. videos, models and scenario teaching).⁴⁴⁻⁴⁶

5. Management of the preterm breech and twin breech



ECV before term has not been shown to offer any benefits.

Evidence from the Term Breech trial cannot be directly extrapolated to preterm breech delivery, which remains an area of clinical controversy.^{47,48} ECV before term has not been shown to offer any benefits.⁴⁹ However, this is currently being further investigated in the Early ECV trial from Toronto.

Evidence
Level
1a

C There is insufficient evidence to support routine caesarean section for the delivery of preterm breech.

Although the majority of obstetricians will use caesarean section for the uncomplicated preterm breech, only a minority believe that there is sufficient evidence to justify this policy.⁴⁷ There is general acknowledgement that the numerous retrospective studies which suggest that caesarean section confers a better outcome in this situation have been subject to bias.⁵⁰ This is acknowledged in some reports.⁵¹ The poor outcome for very low birthweight infants is mainly related to complications of prematurity and not the mode of delivery.⁵² Grant⁵³ has reviewed the controlled trials assessing the value of elective versus selective caesarean delivery of the small baby. He felt that the data 'are not sufficient to justify a policy of elective caesarean section'. In the absence of good evidence that a preterm baby needs to be delivered by caesarean section, the decision about the mode of delivery should be made after close consultation with the labouring woman and her partner.⁴⁸

Evidence
Level
III

C There is insufficient evidence to support caesarean section for the delivery of the first or second twin.

The main problems with vaginal breech delivery in the Term Breech trial related to fetal distress in labour and difficult delivery. However, the trial only included singleton pregnancies. It can be argued that a twin breech is different. Twins are smaller than singletons and continuous electronic fetal monitoring in labour is standard practice. Nevertheless, the plan for delivery will need careful consideration and full discussion with the parents.

Although many clinicians choose caesarean section when the first twin presents as a breech, because of concern about 'interlocking', this complication is extremely rare. Cohen *et al.*⁵⁴ reported 'interlocking' occurring only once in 817 twin pregnancies. Oettinger and *et al.*⁵⁵ compared the outcome of breech presenting twins over two time periods where the caesarean section rate increased from 21% to almost 95%, and found no change in neonatal morbidity or mortality. They did, however, find an increase in maternal mortality in association with a caesarean section delivery. If the second twin is non-vertex (which occurs in about 40% of twins), vaginal delivery is considered safe. Rabinovici *et al.*⁵⁶ carried out a randomised study of twin deliveries where the second twin's presentation was non-vertex. Although the study only included 60 twins, the results showed no difference in five-minute Apgar scores or in any other indices in neonatal morbidity between the two groups.

Evidence
Level
III

There are other non-randomised reports on the safety of vaginal delivery for non-vertex second twin. Laros⁵⁷ had no fetal losses in either group of second twins with 74 being delivered by caesarean and 76 delivered vaginally.

6. Documentation

It is essential that all details of care are clearly documented, including the identity of all those involved in the procedures.