Evidence Based Management of Breech Presentation

Clinical specialty: Obstetrics and Gynecology
Intended users: Physicians and students
Source of Evidence: The Cochrane Library, DARE, EvidenceUpdates

JC Objective
To discuss the evidence for the management of Breech presentation

Breech Presentation

- **Occurs in** 3% (at term). The most common cause is *Preterm Birth*. Other causes include
  1. amniotic fluid volume abnormalities
  2. congenital fetal anomalies
  3. twins,
  4. IUFD,
  5. placenta previa
  6. Submucous leiomyoma, septate or bicornuate uterus
  7. pedulous abdomen and grand multipara

**Diagnosis:**
1. History of prior breech delivery
2. Abdominal examination: **Leopold maneuver**
3. PV:
   a. to identify the buttocks, ischial tuberosities, anus, meconium on the examining fingers
      (1) complete: both legs flexed, more common in **multipara**
      (2) frank: both legs extended, more common in **primigravida**
      (3) footling
      (4) knee
   b. to assess the progress of labor
      (1) abnormal pattern of cervical dilatation
      (2) abnormal pattern of descent
   c. to exclude contracted pelvis
   d. to exclude cord prolapse
4. For a woman with suspected breech presentation, pre- or early labor **ultrasound** should be performed to
   a. confirm diagnosis
   b. assess attitude of fetal head
   c. assess the estimated fetal weight
   d. check for other findings: *fetal anomalies*, multiple pregnancy, placenta previa

**Complications: Perinatal morbidity/mortality is increased due to**
1. Birth trauma
2. ICH
3. Intrapartum hypoxia
4. Prematurity and congenital anomalies
**Management**

**External cephalic version**

- **ECV** increases the likelihood of cephalic presentation at birth and decreases cesarean section rate.
- **When:** not before 34 weeks (spontaneous version occurs).
  - Early ECV (34-36 weeks) versus delayed ECV (at or after 37 weeks): early ECV increases the likelihood of cephalic presentation at birth but may increase the rate of preterm birth (small AR Increase 2.2%)
- **Contraindications:** if vaginal delivery is not an option e.g. pl previa. Prior Cs is a relative contraindication
- Success of an ECV attempt is associated with clinical factors. This should be taken into account in the counseling of women prior to an ECV attempt. Predictors for successful ECV
  1. a relaxed uterus (OR, 18; 95% CI, 12-29)
  2. non-engagement of the breech (OR, 9.4; 95% CI, 6.3-14)
  3. a palpable fetal head (OR, 6.3; 95% CI, 4.3-9.2)
  4. Multiparity (OR, 2.5; 95% CI, 2.3-2.8)
  5. maternal weight less than 65 kg (OR, 1.8; 95% CI, 1.2-2.6)
- **Complications:** Large observational studies suggest that complications are rare.
  1. vaginal bleeding, placental abruption,
  2. feto-maternal transfusion
  3. PROM, preterm birth
  4. cord prolapse, nuchal cord.
  5. abnormal FHR (fetal bradycardia, fetal tachycardia),

*If ECV is refused or failed, discuss planned Cesarean versus planned vaginal delivery*

**Elective Cesarean delivery**

- Women should be informed that planned CS carries a reduced perinatal mortality and early neonatal morbidity for babies with a breech presentation at term compared with planned vaginal birth.
  1. perinatal mortality and early neonatal morbidity (RR 0.33, 95% CI 0.19–0.56)
  2. perinatal mortality alone (RR 0.29, 95% CI 0.10–0.86)
- Women should be advised that planned cesarean section for breech presentation carries a small increase in serious immediate complications for them compared with planned vaginal birth.
- **Indications of elective CS** (i.e. Factors regarded as unfavorable for vaginal breech birth)
  1. PG
  2. hyperextended head (**star-looking sign in ultrasound**)
  3. fetal growth restriction or macrosomia
  4. clinically inadequate pelvis
  5. footling or kneeling breech presentation
  6. placenta previa
  7. prior CS

**Vaginal delivery**

- Assess the feasibility & safety of vaginal delivery
- **Experienced** obstetrician
- All facilities for **emergency CS** must be available. Indications for emergency CS include
  1. cord prolapse (**more common with complete breech**)
  2. abnormal labor patterns (dilatation or descent)
Assisted breech delivery (*Partial breech extraction*):
1. Continuous electronic fetal monitoring
2. episiotomy is done when the buttocks distend the vulva
3. *never apply traction during breech delivery*
4. The feet are hooked out without traction
5. Loop of the cord is drawn
6. The back is always kept anteriorly & the fetus is covered with warm towels
7. when the anterior scapula appears the arms are brought down
8. Follow the head abdominally to keep it flexed & guide it into the pelvis (*Kristeller maneuver*)
9. the head is delivered by
   a. Mauriceau Smellie Veit: jaw flexion-shoulder traction (this may be complicated by jaw dislocation, brachial palsy, atlanto-occipital dislocation)
   b. forceps (*Piper's*): probably the best because
      (1) rapid (decreases duration of cord compression)
      (2) promotes flexion of the head
      (3) avoids traction on the neck
      (4) prevents compression/decompression of the head
   c. Burns Marshall: the fetus is left hanging to promote flexion & descend till the occiput appears under the pubis then the fetus is turned towards maternal abdomen (*not recommended*).
10. Rapid assisted breech delivery may be beneficial to prevent hypoxia and progressive acidosis. However, rapid delivery may increase the risk of potential birth trauma

Breech extraction (*Total breech extraction*):
1. indications:
   a. fetal distress e.g. prolapsed pulsating cord in the second stage
   b. frank breech
2. technique:
   a. groin traction: for frank breech
   b. bringing down a leg: for complete breech

### Arrested breech

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>contracted pelvis</td>
<td>CS</td>
</tr>
<tr>
<td>Macrosomia</td>
<td>CS</td>
</tr>
<tr>
<td>frank breech</td>
<td>CS or breech extraction</td>
</tr>
<tr>
<td>hypotonic uterine action</td>
<td>AROM + oxytocin IV drip (<em>Oxytocin augmentation is acceptable to manage hypotonic uterine action</em>)</td>
</tr>
</tbody>
</table>

### Arrested shoulders

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>nuchal position</td>
<td>Rotate the trunk in the direction of the tips of the fingers or Lövset maneuver</td>
</tr>
<tr>
<td>extended arm</td>
<td>Bring down the posterior arm or Lövset maneuver</td>
</tr>
</tbody>
</table>

### Arrested after-coming head

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>extended head</td>
<td>jaw flexion-shoulder traction or forceps</td>
</tr>
<tr>
<td>posterior rotation of the occiput</td>
<td>Prague maneuver or jaw flexion-shoulder traction</td>
</tr>
<tr>
<td>contracted pelvis</td>
<td>living: symphysiotomy</td>
</tr>
<tr>
<td></td>
<td>dead: craniotomy</td>
</tr>
<tr>
<td>Macrosomia</td>
<td>living: symphysiotomy</td>
</tr>
<tr>
<td></td>
<td>dead: craniotomy</td>
</tr>
<tr>
<td>Hydrocephalus</td>
<td>Craniotomy</td>
</tr>
<tr>
<td>incompletely dilated cervix</td>
<td>cervical incision</td>
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</tbody>
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