Management of slow progress of labour

Key Points
11.1 GENERAL PRINCIPLES

- Prolonged labour can lead to serious maternal problems including:
  1. Infection
  2. Uterine rupture
  3. Genital fistulas

- Problems for the baby include:
  1. Infection
  2. Asphyxial and traumatic injury to the baby
  3. Stillbirth
11.1 GENERAL PRINCIPLES

Labour

- Suspect or anticipate labour if a pregnant woman has:
  - Intermittent abdominal pain after 22 weeks gestation
  - Blood stained mucus discharge or “show”
  - Watery vaginal discharge or a sudden gush of water with or without pain.
11.1 GENERAL PRINCIPLES

- Prolonged labour may cause maternal and perinatal death and disability.

- Ineffective uterine contractions are the most common reason for slow progress of labour in a primigravida.

- Good management of labour may prevent problems associated with prolonged labour.

- Recognize slow progress in labour with a partograph.

- If labour is not obstructed, use oxytocin to augment ineffective uterine contractions.
11.1 GENERAL PRINCIPLES

Labour

- Confirm the onset of labour only if intermittent uterine contractions are associated with progressive changes in the cervix:

1. **Cervical effacement**: the progressive shortening and thinning of the cervix in labour; the length of the cervix at the end of normal pregnancy is variable (a few millimetres to 3 cm); with the onset of labour, the length of the cervix decreases steadily to a few millimetres when it is fully effaced.

2. **Cervical dilatation**: the increase in diameter of the cervical opening, measured in centimetres.
11.1 GENERAL PRINCIPLES

Labour

Progressive Cervical dilatation

Figure 11.1
11.1 GENERAL PRINCIPLES

Labour

- Diagnose labour only if there has been effacement and dilatation.

- An incorrect diagnosis of labour in this situation can lead to unnecessary anxiety and interventions.
11.1 GENERAL PRINCIPLES
Labour- Fetal descent

- Fetal descent may be assessed by abdominal palpation and vaginal examination

**Abdominal palpation**

- Fetal descent into the pelvis may be assessed in terms of fifths of head palpable above the symphysis pubis

  - 5/5 refers to a head that is entirely above the inlet of the pelvis
  
  - 0/5 refers to a head that is deep within the pelvis.
11.1 GENERAL PRINCIPLES

Labour

Abdominal palpation

Figure 11.2

Figure 11.3
11.1 GENERAL PRINCIPLES

Labour

**Vaginal examination**

- Fetal descent can also be quantified by relating the level of the fetal presenting part to a bony reference point in the maternal pelvis.

- Conventionally the ischial spines provide such a reference point (Figure 11.4: 0 = level of ischial spine).
11.2 SLOW PROGRESS OF LABOUR

- Slow progress of labour has three fundamental causes:
  1. Poor uterine contractions
  2. Malpresentations and malpositions
  3. Disproportion between the fetal size and pelvic size.

- Exclude malpresentations and poor contractions before making a diagnosis of disproportion.
Malpresentations and malpositions

- The most frequent and most favourable presentation is a well flexed head in the occipito-anterior position.

- In a malpresentation, there is usually a poor fit between the presenting part and the maternal pelvis.

- The presenting part is poorly applied to the cervix. Contractions are usually ineffective in achieving progress of labour.
11.2 SLOW PROGRESS OF LABOUR

• Disproportion occurs because:
  – The baby is too large
  – The pelvis is too small.

• You may be able to identify disproportion early in some cases:
  e.g. with a hydrocephalic head or a large baby in a woman with an abnormal pelvis because, for instance, of a history of malformation or trauma to the pelvis.

• The best test for an adequate pelvis is a trial of labour. Clinical pelvimetry is of limited value.
11.2 SLOW PROGRESS OF LABOUR

Assessment And Diagnosis

- When a woman presents with intermittent abdominal pains, ask the following questions:
  - Is this woman in labour?
  - If she is in labour, what is the phase of labour?
  - What is the presentation of the fetus?
  - Are the membranes ruptured? If so, how long ago?
11.2 SLOW PROGRESS OF LABOUR

Assessment And Diagnosis contd.

• Assess the woman’s general condition:
  – Is she in pain? Is she distressed?
  – Check pulse, blood pressure and hydration (tongue, urine output), temperature

• Does she have any medical problems?
11.2 SLOW PROGRESS OF LABOUR

- Diagnose labour only if there has been effacement and dilatation.

- An incorrect diagnosis of labour in this situation can lead to unnecessary anxiety and interventions.
11.3 PROGRESS OF LABOUR

Slow Progress Of Labour Associated With Prolonged *Latent* Phase

- The latent phase is prolonged when the cervical dilatation remains less than 4 cm after 8 hours.

- The diagnosis of a prolonged latent phase is made retrospectively:
  - When contractions cease, diagnose as false labour
  - When contractions become regular and dilatation progresses beyond 4 cm, diagnose as latent phase.

- Mistaking false labour for the latent phase leads to unnecessary induction and unnecessary caesarean section.
**11.3 PROGRESS OF LABOUR**

**Slow Progress Of Labour Associated With Prolonged Active Phase**

- During active labour, dilatation usually progresses at least 1 cm per hour. Any rate of dilatation slower than this indicates a slow active phase.

- If the slow active phase is neglected, it can lead to a prolonged active phase.
Slow Progress Of Labour Associated With Prolonged Active Phase

- Slow progress of labour in the active phase of labour may be due to one or more of the following causes:
  - Inefficient uterine contractions
  - Malpresentations and malpositions: e.g. occipito-posterior
  - Disproportion between the size of the fetus and the pelvis.
Slow Progress Of Labour Associated With Prolonged Expulsive Phase

- Spontaneous maternal “pushing” should be permitted, but the practice of encouraging breath-holding and prolonged effort should be abandoned.

- If malpresentation and obvious obstruction have been excluded, failure of descent in the expulsive stage should also be treated by oxytocin infusion unless contraindicated.

- If there is no descent even after augmentation with oxytocin, consider assisted delivery.
11.3 PROGRESS OF LABOUR

- Assisted vaginal delivery by forceps or ventouse is indicated:
  - if the head is engaged (not more than 1/5 of the head is palpable above the pelvic brim) or
  - if the leading bony edge of the fetal head is at one cm or more below the level of the ischial spines by vaginal examination.

- Caesarean delivery is the preferred option if the head is at a higher level.
11.3 PROGRESS OF LABOUR

Slow progress of labour associated with malpositions and malpresentations

Brow presentation

- When the fetus is living: deliver by caesarean
- When the fetus is dead:
  - If dilatation is incomplete, deliver by caesarean section
  - If dilatation is complete, perform craniotomy or caesarean section.
- Do not deliver brow presentation by vacuum extraction, forceps or symphysiotomy.
11.3 PROGRESS OF LABOUR

Slow progress of labour associated with malpositions and malpresentations

Face presentation

• Prolonged labour is common with face presentation:
  – In the chin-anterior position, descent and delivery of the head by flexion may occur
  – In the chin-posterior position, the fully extended head is blocked by the sacrum from descent and arrest of labour occurs.
11.3 PROGRESS OF LABOUR

Slow progress of labour associated with malpositions and malpresentations

- Face presentation, chin anterior, can usually be delivered vaginally.
- Chin posterior can rarely be delivered vaginally.
- Do not perform vacuum extraction for face presentation.
11.3 PROGRESS OF LABOUR

- **Breech presentation**
  - Prolonged labour is an indication for urgent caesarean section in breech presentation.
  - Failure of labour to progress is a sign of possible disproportion.

- **Transverse lie**
  - Caesarean section is the management of choice, whether the fetus is alive or dead
11.3 PROGRESS OF LABOUR

Transverse lie

Breech presentation
11.4 OPERATIVE PROCEDURES

Make the uterine incision big enough to deliver the head and body of the baby without tearing the uterine incision.
Delivery of the fetus and placenta
11.4 OPERATIVE PROCEDURES

- Look carefully at the uterine incision before closing the abdomen.
- Make sure there is no bleeding and that the uterus is firm.
11.4 OPERATIVE PROCEDURES

What to do if problems occur

If bleeding is not controlled

1. Massage the uterus

2. If uterus is atonic, continue to infuse oxytocin and give ergometrine 0.2 mg and prostaglandins, if available

3. Transfuse as necessary

4. Have an assistant press fingers over the aorta to reduce the bleeding until the source of bleeding can be found and stopped

5. If bleeding is not controlled, perform uterine artery and utero-ovarian artery ligation or a hysterectomy.
11.4 OPERATIVE PROCEDURES

What to do if problems occur

- Ergometrine is easily destroyed by heat.

- If logistics are poor, you may need to give what appears to be a very large dose – but beware its use in eclamptic patients as it raises the blood pressure.
11.4 OPERATIVE PROCEDURES

Tubal sterilization at caesarean section
11.4 OPERATIVE PROCEDURES

INDUCTION AND AUGMENTATION OF LABOUR

• Induction of labour and augmentation of labour are performed for different indications, but the methods are the same.

• **Induction of labour**: stimulating the uterus to begin labour

• **Augmentation of labour**: stimulating the uterus during labour to increase the frequency, duration and strength of contractions.

• A good contraction pattern is established when there are three contractions in 10 minutes, each lasting more than 40 seconds.
11.4 OPERATIVE PROCEDURES

INDUCTION AND AUGMENTATION OF LABOUR

• The success of induction is related to the condition of the cervix at the start of induction:
  – Cervix is **favourable** if it is soft, short and partially dilated
  – Cervix is **unfavourable** if it is firm, long and closed: ripen it using prostaglandin or a Foley catheter before induction.

• Prostaglandin E2 is placed high in the posterior fornix of the vagina and may be repeated after 6 hours if required.

• If prostaglandin is not available, use a Foley catheter

• Do not insert the catheter if there is a history of bleeding or ruptured membranes or obvious vaginal infection.
11.4 OPERATIVE PROCEDURES

Artificial rupture of the membranes (ARM)

• If the membranes are intact, it is recommended practice in both induction and augmentation to first perform artificial rupture of membranes.

• In some cases, this is all that is needed.

• In areas of high HIV prevalence, leave the membranes intact for as long as possible to reduce the risk of perinatal transmission of HIV.
11.4 OPERATIVE PROCEDURES

Oxytocin stimulation

- Use oxytocin with great caution as fetal distress can occur from hyperstimulation and, rarely, uterine rupture can occur.

- Multiparous women are at higher risk for uterine rupture.

- Women receiving oxytocin should never be left alone.
11.4 OPERATIVE PROCEDURES

Instrumental delivery

- The expulsive forces of labour can be augmented by traction applied to the fetal head.

- The methods used are:
  - Vacuum extraction
  - Forceps delivery.

- Any trial of instrumental delivery must be treated as a potential caesarean section in terms of preparing for anaesthesia (give ranitidine early) and blood transfusion.
Vacuum extraction (Ventouse)

Figure 11.19
Vacuum extraction (Ventouse)
11.4 OPERATIVE PROCEDURES

Using the vacuum extractor

- Every application should be considered a trial of vacuum extraction.
- Do not persist if there is no descent with every pull.
- If vacuum extraction fails, perform caesarean section.
11.4 OPERATIVE PROCEDURES

Forceps delivery

Figure 11.22

Figure 11.23

Figure 11.24
11.4 OPERATIVE PROCEDURES

Forceps delivery