Chapter 14

CORD PROLAPSE

Cord prolapse occurs in 1/200 to 1/400 pregnancies. Perinatal mortality ranges from 0.02% to 12.6%. The outlook for the fetus is influenced by the degree and duration of cord compression and the time interval between the diagnosis and birth.

Definition:

Umbilical cord prolapse is defined as the descent of the umbilical cord through the cervix alongside (occult) or past the presenting part (overt) in the presence of ruptured membranes. Cord presentation is the presence of the umbilical cord between the fetal presenting part and the cervix, with or without membrane rupture

Risk Factors

1. Malpresentation: more common when preterm, multiple gestation, polyhydramnios, pelvic tumors
2. Unstable lie
3. Hydramnios
4. Grand multiparous women i.e., parity of >5
5. Rupture of membranes when the presenting part is high
6. Preterm rupture of membranes
7. CPD
8. Placenta previa, low lying placenta
9. Male gender
10. Fetal congenital anomalies
11. Birth weight less than 2500 g
12. Pelvic tumours

Presentation

1. Sudden fetal bradycardia
2. Patient complaint that something is coming from the vagina
3. Visual – umbilical cord seen at introitus (majority are hidden in vagina, therefore, diagnosis is not always easy)
4. Palpation of the cord on vaginal examination

V/E indicated to rule out cord prolapse if:

a) Unexplained abnormal fetal heart rate
b) Membranes rupture (check fetal heart after performing vaginal examination and after membrane rupture)

Management

Women at risk need to be aware of:

- The potential for prolapse
- The need for fetal surveillance as soon as possible after membrane rupture
- Positions that might be helpful to relieve pressure on the cord while awaiting transfer to hospital
- Interventions that will occur in hospital in the event of a cord prolapse

If the fetus is viable (presence of cord pulsation, auscultation of fetal heart with Doppler or external monitor) prepare for immediate delivery/transport. Provide explanations and reassurance to the woman and partner.

1. Call for assistance and ensure the availability of staff capable of resuscitating a potentially depressed infant

2. Perform a pelvic exam to determine:
    - Cervical effacement and dilation
    - Station of the presenting part
    - Presence of pulsations within the cord vessels

3. Initiate intrauterine resuscitation

4. Relieve cord compression
    - Assist the woman to assume a modified maternal position such as: knee chest, Sims lateral or Trendelenburg
    - Using the tips of the fingers elevate the presenting part (maintain the elevation until delivery - this may require insertion of your entire hand into the vagina)

- Place foley catheter, fill the maternal bladder with 500-700cc Normal saline, clamp the Foley (this must be drained prior to caesarean section). This is to mechanically uphold the presenting part and to suppress uterine contractions

5. Do not attempt to replace the cord. Keep the cord warm if it is outside of the vagina (e.g., warm, saline-soaked cloth) and avoid manipulating it.

6. NPO – start IV infusion

7. Record FHR continuously

8. Prepare for immediate caesarean section. If vaginal birth is imminent and immediately feasible, then it is acceptable to proceed with vaginal birth while a c/s is being organized. (Assisted vaginal birth if vertex, assisted breech birth if the breech is presenting).

9. If accessibility to a surgeon/anaesthetist within 20 –30 minute period is impossible and birth is not considered imminent, transport immediately while continuing to relieve cord compression.

Suggested Readings

1. Deitra Leonard Lowdermilk, Shannon E. Perry, *Maternity & Women's Health Care*, 8th ed., Mosby, St. Louis, MO, 2004.
2. ALARM Course Syllabus (Advances in Labour and Risk Management), (22nd ed.) SOGC 2015-2016, Umbilical Prolapse Chapter.