

CORD PROLAPSE

ANDREAS STAVROULIS, MD, MRCOG

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Introduction

- ▼ Cord prolapse occurs when the umbilical cord descends below the presenting part of the fetus after the membranes have ruptured.
- ▼ It becomes an emergency when the presenting part compresses the umbilical cord, which in turn affects fetal oxygenation.



Introduction

- ▼ Cord prolapse occurs in 0.1–0.6% of all births.
- ▼ The Perinatal Mortality Rate associated with cord prolapse is 4-15% in hospital. with immediate delivery and 50% if the prolapse occurs at home.
- ▼ Maternity staff should participate in cord prolapse training at least annually.

Introduction

Perinatal mortality and morbidity are associated with asphyxia, due to:

- ▼ mechanical compression of the cord between the presenting part and the bony pelvis.
- ▼ spasm of the cord vessels when exposed to the cold.
- ▼ the evidence suggests that the interval between diagnosis and delivery is significantly related to the risk of stillbirth and neonatal death.

Introduction

Incidence of cord prolapse by presentation:

- Vertex presentation 0.4%
- Extended Breech 0.5%
- Flexed Breech 4-6%
- Footling Breech 15-18%

Table 1. Risk factors for cord prolapse

| General | Procedure related |
|---|---|
| Multiparity | Artificial rupture of membranes |
| Low birth weight, less than 2.5 kg | Vaginal manipulation of the fetus with ruptured membranes |
| Prematurity less than 37 weeks | External cephalic version (during procedure) |
| Fetal congenital anomalies | Internal podalic version |
| Breech presentation | Stabilising induction of labour |
| Transverse, oblique and unstable lie (when the longitudinal axis of the fetus is changing repeatedly) | Insertion of uterine pressure transducer |
| Second twin | |
| Polyhydramnios | |
| Unengaged presenting part | |
| Low-lying placenta, other abnormal placentation | |

Diagnosis

- ▼ Early diagnosis is important.
- ▼ The umbilical cord may or may not be visible and the diagnosis is usually made during vaginal examination.
- ▼ It can be suspected particularly after a predisposing event, such as rupture of membranes, as suspicious fetal heart rate patterns are frequently encountered.
- ▼ The examiner feels a soft usually pulsating structure either at or protruding through the cervix.

Diagnosis

- ▼ To establish if there has been a cord prolapse: on admission of a woman who reports rupture of her membranes the midwife **MUST** palpate the abdomen and then listen to the FHR and pattern.
- ▼ A vaginal or speculum examination must then be performed. If a cord is felt the midwife/doctor must calmly explain to woman and her birth supporters.

Prevention: the following should be considered to try and avoid cord prolapse:

- ▼ With transverse, oblique or unstable lie, elective admission to hospital after 37+6 weeks of gestation should be discussed and women should be advised to present quickly if there are signs of labour or suspicion of membrane rupture. This will not prevent cord prolapse but will minimise delay in diagnosis and management.
- ▼ Women with non-cephalic presentations and preterm pre-labour rupture of the membranes should be offered admission.

Prevention: the following should be considered to try and avoid cord prolapse:

- ▼ Artificial membrane rupture should be avoided if the presenting part is mobile. If it is necessary it should be performed with arrangements in place for immediate c/section.
- ▼ Vaginal examination in the context of ruptured membranes and a high presenting part carry the risk of upward displacement and cord prolapse. Upward pressure on the presenting part should be kept to a minimum in such women.
- ▼ Rupture of membranes should be avoided if the cord is felt below the presenting part.
- ▼ When cord presentation is diagnosed in established labour, c/section is usually indicated.

Management

- ▼ Aim (alive fetus):
 - To deliver the fetus as quickly as possible
 - To maintain the fetus in as good a condition as possible
- ▼ Call for help – emergency team (obstetric and neonatal).
- ▼ Vaginal examination should be carried out immediately if not being done already.
- ▼ Explain findings to the woman and her partner.

Management

- ▼ Keep examining fingers in vagina and aim to lift the presenting part if possible.
- ▼ Elevation of the presenting part manually and rapid delivery by c/section.
- ▼ Once the cord has prolapsed and the diagnosis has been confirmed, the cord should not be replaced in the vagina as this can provoke spasm and interruption of fetal perfusion.
- ▼ An ultrasound assessment is performed as If no fetal heart activity is detected, labour continues at the most appropriate time following explanations and discussion with woman and her partner.

Management

- ▼ If pulsation is felt, the mother should be assisted into a position which relieves cord compression, either a knee/chest or a head down tilt, preferably in the left lateral position, whilst preparations are being made for immediate delivery in theatre.
- ▼ If the umbilical cord prolapse is diagnosed during a vaginal examination, the midwife/obstetrician should NOT remove their fingers from the vagina. They should attempt to relieve cord compression by gently elevating the presenting part.
- ▼ Alternatively, bladder filling can be used as a method of elevating the presenting part of the fetus. The balloon is inflated and the catheter is then clamped.

Management

- ▼ Caesarean section should be performed unless the fetus is dead or <26 weeks' gestation (severe prematurity).
- ▼ During the first stage of labour delivery should be by caesarean section.
- ▼ During the second stage, forceps or ventouse delivery may be carried out.

Management

Cord prolapse outside the delivery suite (ward, clinic):

- ▼ Call for help (crash call)
- ▼ Vaginal examination as above
- ▼ Catheterise if possible
- ▼ Place the woman in a knee / chest position
- ▼ Immediate transfer to the delivery suite

Management

Cord prolapse in the community:

- ▼ Call for help (use husband), alert ambulance and delivery suite.
- ▼ Catheterise if possible, fill bladder and clamp.
- ▼ Place the woman in a knee / chest position whilst waiting.
- ▼ Maintain vaginal digital pressure on the presenting part whilst waiting.
- ▼ Left lateral position will be the position of choice for transfer within the ambulance
- ▼ Immediate transfer to the delivery suite.

Management

- ▼ The time interval between diagnosis and delivery is important but is not the only determinant of perinatal outcome.

Post-event:

- ▼ Accurate and comprehensive documentation is essential and must be maintained.
- ▼ All women should be debriefed after delivery.
- ▼ Auditing.
- ▼ Maternity staff should participate in cord prolapse training at least annually.

Thank you

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