L08: Complications of Delivery

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Updated: December 07, 2020
Reviewed:

Introduction

Delivery complications include the following topics: breech delivery, limb presentation, cord prolapse and shoulder dystocia.

Essentials

- Breech presentation: The fetus whose presenting part is the buttocks and/or feet.
  - Most fetuses with persistent breech presentation are delivered by cesarean delivery, which is associated with a clinically significant decrease in perinatal/neonatal mortality and neonatal morbidity compared with vaginal delivery.
  - Breech can be frank, complete, or footling - treatment is the same.
- Single limb presentation: This is a critical presentation which is immediately life threatening to both mother and neonate. Rapid transport is indicated.
- Cord prolapse: The cord is the primary presenting part. This is immediately life threatening to the fetus and requires rapid recognition and transport.
- Shoulder dystocia: The shoulder of the fetus is impacted against the anterior symphysis pubis of the mother.

Additional Treatment Information

Breech presentation

- If breech, hands off neonate until body has been born to umbilicus. Allow head to deliver spontaneously, gently lift and and hold the neonate upwards and backwards while avoiding hyperextension.
- If head does not deliver within 3 minutes of the body, it is an immediate life-threatening emergency.
- Paramedics should initiate rapid transport and attempt the Mauriceau-Smellie-Veit manoeuvre (M-S-V) repeatedly until neonate delivers or an obstetrical facility is reached.
- Cord prolapse and meconium contamination are more common in breech presentations

Limb presentation

- Do not attempt to deliver, do not delay on scene. Cover the limb using a dry sheet to maintain warmth and initiate rapid transport to a facility capable of performing a C-section. Supportive care to mother.
- Position mother kneeling if possible. Do not touch presenting part.

Shoulder dystocia

- This is an immediate life-threatening situation that occurs when the shoulder of the fetus is impacted against the anterior symphysis pubis of the mother. There are 5-10 minutes to deliver the fetus before mortality greatly increases.
- Declare the emergency explain the situation to gain maximum cooperation from the mother and all staff.
- The newborn is likely to be compromised and in need of resuscitation. Follow CPG M09: Neonatal Resuscitation.
- Shoulder dystocia can be predicted by larger fetal size and a previous history of shoulder dystocia.
- Shoulder dystocia can be diagnosed after delivery of neonatal head by delayed delivery, a failure to progress, or "turtling" where the mother pushes and the neonate advances, then retracts when pushing stops.
- It is suggested to remain on scene for a maximum of 10 minutes or 2 rotations of the HELPER procedure, and then initiate rapid transport.
  - Help: immediately declare emergency and call for help
  - Legs up: position the mother's hips in a hyperflexed (McRobert's) position

- Pressure: apply supra public pressure in time with contractions
- Empty bladder: either with an in and out catheter, or encourage urination
- Enter vagina with finger and
- Remove posterior arm
- Roll onto all 4s, and attempt to push

Cord prolapse

- This is a time sensitive critical emergency - early diagnosis, immediate intervention and transport to the appropriate facility are effective in reducing the perinatal mortality rate. Cord prolapse can be predicted by a history of a fetus that is small for gestational age or an unstable lie, or preterm.
- In an umbilical cord prolapse, minimize manipulation of the overtly exposed cord, and protect it from the cold environment with warm saline or water soaked gauze, as this can exacerbate vasospasm-induced perfusion compromise. In the case of cord compression, manual elevation of the fetal head may be required.
- Knees to chest, face down positioning is preferred. Left-lateral position with hip padding is advised. Notify receiving hospital early.

  WARNING: THIS POSITION IS UNSAFE DURING TRANSPORT.
- If a cord prolapse is present, the fetal part should be elevated to relieve pressure on the cord. Assist the patient into a knee chest position and insert a sterile gloved hand into the vagina to apply manual digital pressure to the presenting part of the fetus which is maintained until transfer of care in hospital.

Nuchal cord

- If nuchal cord is present and loose, slip cord over the neonate's head. If nuchal cord is tight and cannot be slipped over the neonate's head and neonatal distress is present, clamp and cut the cord and encourage rapid delivery.
- Following delivery of the neonate, the cord should be clamped and cut immediately if neonatal or maternal resuscitation is required. Otherwise, delayed cord clamping (after 2 minutes) is preferred. Clamp the cord in 2 places and cut. Place the neonate on the maternal chest and encourage breastfeeding. Manage postpartum bleeding as required. If placenta has not delivered in 20 minutes, initiate rapid transport.

Referral Information

- All cases of delivery complications must be transported to the closest most appropriate facility, unless birth is imminent. Certain complications are a surgical emergency and require rapid transport with notification, as specialty services may be required.
- Smaller facilities, although ill equipped to handle complex deliveries, can often safely perform c-sections, which can be lifesaving for both the mother and infant
- Immediate transport of limb presentation and cord prolapse patients is indicated
- It is suggested to attempt to deliver breech and shoulder dystocia patients in the field initially, then initiate rapid transit as the timeline to neonatal mortality is less than 10 minutes, and rapid transport without attempting delivery leads to increased neonatal mortality.

Interventions

Emergency Medical Responder – All FR interventions, plus:

- Transport as soon as possible to closest facility
- Consider ACP intercept, or seek additional resources if needed
- See Additional Treatment Information above for managing specific complications

Primary Care Paramedic – All FR and EMR interventions, plus:

- Establish vascular access and consider fluid bolus to correct hypoperfusion or hypotension if clinically indicated
  - → D03: Vascular Access

Evidence Based Practice

Childbirth/Post Natal Mother Care