

Gastroschisis



This guideline was updated in May 2015 by Dr Renuka Bhat with input from members of the New Zealand Maternal Fetal Medicine Network.



Background

Fetal gastroschisis is usually often diagnosed at Nuchal translucency or routine anomaly scan.

Underlying cause is still unknown, but is believed to be related to vascular compromise of the omphalomesenteric artery during embryonic development.

Numerous studies have reported a rising incidence of gastroschisis. Risk factors include young maternal age, smoking and use of vasoactive agents.

A survival rate of liveborn infants with gastroschisis is 90 – 95%.

The risk of intra-uterine fetal death is about 10% and its association with fetal distress is well known.

Once the diagnosis is clarified (where possible) options can be discussed with the woman and her support. If the woman continues the pregnancy, continued care with fetal medicine input/ LMC is indicated. The follow-up will depend on the situation.

Objective

To guide the accurate diagnosis, investigation and management of women presenting with fetal gastroschisis.

To provide a consistent approach to the care of women with fetal gastroschisis which takes into consideration individual women's views and wishes regarding care plan.



Definition

- Fetal gastroschisis is defined as full thickness anterior abdominal wall defect with bowel protruding through the defect
- It usually occurs on the right side of a normally inserting umbilical cord
- The defect is not covered by membrane

Differential Diagnosis

- Omphalocele and associated syndromes (e.g. Beckwith-Wiedemann, pentalogy of Cantrell)
- Amniotic banding
- Limb- body wall complex

Important History

- Age and ethnicity
- Any drug use particularly vaso-active drugs
- Past obstetric history, any anomalies / syndromes
- Any family history of note. In particular syndromes
- Consanguinity



Ultrasound

Ultrasound can diagnose fetal gastroschisis in up to 90 % of cases. It is important to distinguish gastroschisis from exomphalos.

Ultrasonic features include:

1. Bowel extrusion through the anterior wall defect, with attention to the umbilical cord insertion. In the majority of cases it occurs to the right of the umbilical cord. The bowel is free-floating without a covering
2. Consider possible ruptured omphalocele cyst: if a larger defect or organs other than bowel (such as liver) protruding
3. Careful examination for any other associated fetal structural abnormalities

Ongoing assessment of intra-abdominal as well as extra-abdominal bowel pattern as gestation advances. Stomach size can also be measured.

Investigation

Amniocentesis is not usually indicated unless there are other anomalies present.

Prognosis

- Gastroschisis is associated with an increased perinatal mortality before the onset of labour
- Regular antenatal surveillance is therefore recommended (see below).
- Mode of delivery is as per normal obstetric guidelines. Caesarean section is not indicated for reasons of fetal anomaly.



- Delivery preferably in a unit with paediatric surgical services. After birth the bowel is placed into a transparent plastic bowel bag carefully.
- The prognosis is generally good. The management may include primary surgery and closure, or if primary closure is not possible, the defect and contents are covered with a silastic silo for slow replacement and delayed surgical closure. Babies may have complications of bowel strictures.
- Although the survival rate for infants born with gastroschisis is approximately 90%, morbidity can result from prolonged hospital stay, delay in time to start oral feeds, time on ventilator, duration of use of TPN, multiple surgical interventions, neonatal sepsis, NEC and short bowel syndrome

On-going Management

General principles:

- 4-weekly ultrasound surveillance from diagnosis until 32 weeks
- Counselling with paediatric surgical services antenatally
- Weekly surveillance from 32- 37 weeks
- Consideration of elective delivery by 37-38 weeks

Ultrasonic fetal surveillance:

- **Fetal growth:**
 - SGA / IUGR occur in more than 20% of cases. Although the fetal AC may be artificially smaller as a result of the extra-abdominal bowel extrusion, serial ultrasonic assessment of fetal biometry (BPD, HC, AC, FL) will still be helpful to detect any evidence of fetal growth restriction



- **Liquor volume:**
 - Polyhydramnios is associated with an increased risk of bowel complications post-delivery. Increased liquor volume is believed to be a sign of bowel damage, bowel atresia or reduced gut motility
- **Bowel dilatation:**
 - Some studies have suggested that extra-abdominal bowel dilatation (> 17 mm) is associated with poor prognosis, but not all studies agree with this. Intra-abdominal dilatation is likely to be of greater significance
- **Umbilical artery Doppler:**
 - If IUGR is suspected. There is increased incidence of meconium stained liquor and oligohydramnios associated with gastroschisis. CTG monitoring should also be considered in the presence of abnormal Doppler results, as up to 22% of fetuses with gastroschisis may have a pathological CTG prior to the onset of labour

References

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