PROTOCOL FOR GASTROCHISIS

Rationale
A condition in which a variable length of thickened abnormal gut protrudes through a short, transverse defect, usually to the right side of the umbilicus. It is not covered with a peritoneal sac. The thickened abnormal state of the gut is due to exposure to amniotic fluid. The gut is usually short and a variable length may lie outside the abdomen. Malrotation of the gut will be present. Gastroschisis is rarely associated with other congenital anomalies or syndromes.

A vascular accident involving the right omphalomesenteric artery is thought to cause gastroschisis, although a small number of cases result from rupture of an exomphalos.

Practice

- The herniated gut should be placed in the midline on the baby’s abdomen and the baby should be placed into a bowel bag (Vi-drape). The bag should reach up to the armpits and the drawstring pulled. The gut needs to be supported by lying the baby on its side with the bowel supported on towels to maintain the gut in the midline.

- The gut has a large surface area, so the bowel bag will also minimise heat and water loss.

- Perfusion to the gut can also be continually monitored through the bowel bag.

- The bowel bag also acts as a barrier to infection. The baby will be commenced on intravenous antibiotics.

- The baby will be nil by mouth, with replacement and maintenance intravenous fluids.
• The baby will need a size 10 (8 if smaller baby) naso/oro gastric tube passed. This will need to be on free drainage and aspirated hourly, to maintain decompression of the bowel.

• Gastric losses will need to be recorded and replaced ml for ml with 0.9% sodium chloride with added potassium (10mmols in 500mls). This is because a lot of potassium is lost in gastric aspirate.

• The baby will need an accurate fluid balance record.

• The baby will need continual monitoring of all vital signs. Ensure oxygen saturation limits set correctly for gestation (See pulse oximetry guideline). Administer humidified oxygen if required (See oxygen therapy guideline).

• There is a risk of hypovolaemia, caused by serum losses from the exposed bowel

• The surgeon will need to come to assess the baby, and decide on timing for surgery.

• Ensure consent form signed and full explanation including leaflet given to the parents/carers.

• Ensure blood and/or other blood products as requested by the surgeon are available.

• Ensure internal incubator is checked and fully equipped.

• Ensure notes and x-rays accompany baby to theatre.

• Ensure name bands insitu to identify baby.

• Complete preoperative checklist.
Post operative practice

- The baby will be ventilated and sedated, as potentially there maybe respiratory compromise from the bowel being replaced in the abdominal cavity. The length of time for this will be dependent on the baby’s condition.

- Continuous monitoring of vital signs. Ensure oxygen saturation limits set correctly for gestation (See pulse oximetry guideline).

- Nil by mouth, with intravenous maintenance fluids as prescribed by the medical team.

- Observe wound for any signs of redness, oozing or breakdown and observe abdomen and legs for signs of swelling, tightness and colour changes.

- Increased intra abdominal pressure may compromise the renal function. The baby may need to be catheterised to monitor this.

- Naso gastric tube remains on free drainage and aspirated 2-3 hourly, with gastric losses replaced ml for ml, if the losses are more than 10mls/kg in 24 hours, unless the surgeon requests differently. Record the colour of the aspirate. Aspirate becoming clearer and lessening in amount and passage of stool is used as a guide for the surgeon to decide when the baby can start feeding.

- Feeding will be a very slow process as the bowel takes a long time to recover after gastroschisis repair. This is because the bowel is thickened and oedematous due to exposure to amniotic fluid (Merenstein and Gardner 1998).

- The baby may be on PN for a long period of time, so the baby will require a long line to be inserted.

- Accurate fluid balance to be recorded.

- Administer extra volume replacement if prescribed by the medical team.
The baby may have an arterial line for blood pressure monitoring and blood sampling (See guideline for care of arterial line).

The baby will need to be slowly weaned from the morphine infusion. Then ensure regular paracetamol is administered as prescribed (See pain protocol). Continually assess pain score.

Complications

If the surgeon is unable to close the abdomen with a primary closure a silo may be used. This is sewn to the fascia of the abdominal defect, and suspended above the baby. Daily, the silo is made smaller by a series of suture lines across the pouch which gradually reduces the bowel into the abdomen. By this method, the abdomen is allowed time to accommodate the increased volume.

Long line complications.

Long term motility disorders of the gut which may prevent the progression of feeds.

Short bowel syndome.

Hepatic complications of long term PN.

Incisional hernia and adhesive bowel obstruction are possible short or long term problems.

This condition has a 5% mortality rate – this can be early with massive bowel loss at delivery or later from multi organ failure.

References