

## **GASTROSCHISIS:**

### **1. Management:**

- a. Bowel decompression with NGT
- b. Baseline Hct
- c. OR for primary closure (small defect) or silo placement (large defect) for gradual reduction of abdominal contents. A Bentec silo can be placed at the bedside. This is a spring loaded silo that can be placed under the fascia
- d. Hydration: These babies have a very high fluid loss and often require fluid boluses. Intravenous hydration with balanced salt solution and colloid is essential. Infants should be administered at least 1.5-2.0x's maintenance. Urine output is not a reliable sign to follow as infants may not normally void for the first 12 to 18 hours.
- e. If the fascial opening in the gastroschisis baby is too tight it may cause infarction of the bowel as it distends with air- this may need to be emergently opened.

### **Management of Gastroschisis in the Delivery Room and Post-operatively**

#### **Gastroschisis Delivery (level 5 delivery) Pre-Delivery**

##### **Nursing Preparation:**

- Bowel Bag
- Extra Towels
- IV supplies
- Replogle tube
- Sedation Medications
- Fluids

##### **Provider Preparation:**

- Have L&D Pend baby in EPIC
- Notify surgeons of upcoming delivery and again when baby is born
- Order D5LR to run at 130 ml/kg (approximate wt)
- Order NS bolus 20 ml/kg (approximate wt), repeat if necessary
- Order medication in preparation for intubation:
  - Morphine (0.1 mg/kg) or Fentanyl (2 mcg/kg)
  - Versed (0.1 mg/kg)
  - Rocuronium (0.6 mg/kg)

#### **Delivery**

- Two providers catch baby, place in bowel bag up to chest, and minimize bowel handling • In the resuscitation suite, baby is placed on the right side and the bowel is supported with towels to level of defect
- NRP, once stable respiratory effort/HR proceed to next step
- Notify the surgeon of delivery, baby will be ready in 30 minutes
- Replogle tube to low continuous suction
- Place PIV (prioritize upper extremity & scalp), bolus, and hang maintenance fluids.
- Consider PICC line placement, but only after discussion with the surgical team. This should only be attempted if it will not interfere with the timing of operative therapy.
- Try to contain lower extremities in bag. Do not place leads/monitors on lower extremities and minimize LE IVs. Priority is given to IV access. If necessary, a hole can be cut in the bag to bring a LE out for IV

access.

- Sedate, provide morphine/fentanyl, then versed, then rocuronium, and then intubate •  
Fellow or AP member to stay to manage ventilator/sedation during procedure
- Please always attempt to leave the umbilical cord length at least 6 cm until the cord is shortened by the pediatric surgery team.

## **Surgery**

Surgical Supplies (DNCC to provide):

- Pull NICU gastroschisis surgical supplies “kit”
  - 4 sterile blue OR towels
  - 2 sterile blue half sheets (1 for operative field, 1 to lay sterile supplies on)
  - 1 small ioban cut into 4 strips
  - warm saline for irrigation
  - 1 sterile basin
  - 2 packs 4x4 gauze (1 pack for operation, 1 pack for prep)
  - 2 bottles betadine (1 for prep, 1 in case silo is needed)
  - 4 silos (size 3, 4, 5, 7.5)
  - 3 packs sterile gloves (1 for fellow, 1 for attending, 1 for assistant holding bowel for prep)
  - 2 sterile gowns
  - 1 pack umbilical tape
  - 1 pack 2-0 silk suture
  - xerofoam strip
  - Telfa dressing
  - 2 packs 2x2
  - 1 kerlix roll
  - betadine ointment
  - 4 medium tegaderms
  - 2 small tegaderms
  - 3 vials mastisol
- Surgeons to bring rest of equipment from OR
  - 2 singly forceps
  - 2 debakey forceps
  - 2 adson forceps
  - 2 ragnel retractors
  - 2 army-navy retractors
  - 1 heavy scissor
  - 1 suture scissor
  - 1 pack umbilical tape
  - 1 pack 2-0 silk suture
  - 4 towel clips
  - 1 5 Fr foley catheter
  - 1 6 Fr foley catheter
  - bovie machine
  - bovie cautery

- bovie pad (appropriate size based on weight)

### **Gastroschisis Post-Op Management Primary Closure**

Respiratory: Wean towards extubation from the ventilator

Fluids/Nutrition:

- Continue D5LR for at least the first 24 hours post-op and then start TPN
- Provide total fluids of 180-200 ml/kg/day
- Monitor UOP and discuss insertion of a Foley catheter at the time of operation or shortly thereafter •  
Provide NS/LR boluses (20 ml/kg) as needed, including for UOP < 1ml/kg/hr
- Consent family for PICC and insert PICC within 12 hours of procedure

GI:

- Continue Replogle tube to LIWS
- After discussion with the surgeon, consider placing Replogle to gravity when output is minimal and nonbilious
- After discussion the with surgeon, consider discontinuation of the Replogle tube if output remains <10 ml/kg/day & there is no emesis.
- After discussion with the surgeon, consider starting trophic feeds 24 hours later if infant continues to have no emesis
- Encourage mother to pump and provide EMM when feeds are started
- Consent mother for donor milk if she is unable to pump or cannot provide enough EMM •  
Advance feeds as per Pediatric Surgery at no more than 20 ml/kg/day

ID:

- Continue antibiotics for 48 hours after initial procedure. Antibiotics should be continued only for sepsis or positive cultures

Pain:

- Provide Tylenol PR or IV every 6 hours for 48 hours

Provide morphine drip at 0.02 mg/kg/hr or morphine PRN for 24 hours for post-op pain

Notify:

- Please notify Pediatric Surgery if patient is not responding appropriately to the above therapy or if there is an escalation in therapy. For example:
  - Poor response to fluid boluses
  - Escalation of ventilator support
  - Persistent acidosis/worsening base deficit
  - Increasing vent pressures/declining tidal volume
  - Poor UOP (<1ml/kg/hr)
  - Disruption of dressing
  - Wound concerns

### **Staged Closure**

Respiratory: Wean toward extubation from the ventilator as soon as the first stage of closure has been performed (eg. Silo placement). The patient does not need to remain intubated until final closure unless otherwise requested by the surgeon.

#### Fluids/Nutrition:

- Continue D5LR for the first 24 hours post-op and then start TPN
- Provide total fluids of 180-200 ml/kg/day
- Weigh and record saturated dressings when changed and consider replacing this fluid loss • Monitor UOP and discuss insertion of a Foley catheter at the time of operation or shortly thereafter • Provide NS/LR boluses (20 ml/kg) as needed, including UOP<1ml/kg/hr
- Consent family for PICC and insert PICC within 12 hours of procedure

#### GI:

- Please keep umbilical tape, scissors, Kerlix, and cling at the patient's bedside until the defect is closed. • The dressing at base of the silo is intended to support the base of the silo and absorb fluid lost from the abdominal wound for measurement. It should always be applied in a fashion that allows constant visualization of the silo contents for color change, edema, or other signs of ischemia. Base of dressing should be kept as clean as possible (impossible to keep sterile) as this is the only barrier to the peritoneal cavity; whereas remainder of silo treated non sterile
- Patients should remain supine until after the final closure procedure AND the pediatric surgeon has cleared them to be positioned otherwise.
- Continue Replogle tube to LIWS
- After discussion with the surgeon, consider placing Replogle to gravity when output is minimal and nonbilious.
- After discussion with the surgeon, consider discontinuing tube if output remains <10 ml/kg/day and there is no emesis
- After discussion with the surgeon, consider starting trophic feeds 24 hours later if infant continues to have no emesis
- Encourage mother to pump and provide EMM when feeds are started
- Consent mother for donor milk if she is unable to pump or cannot provide enough EMM • Advance feeds as per Pediatric Surgery at no more than 20 ml/kg/day

#### ID:

- After the initial 48 hours of rule-out antibiotics, stop antibiotics until perioperative period - but only for sutured fascial closure

#### Pain:

- Provide Tylenol PR or IV every 6 hours for the first 48 hours
- Provide morphine drip at 0.02 mg/kg/hr for 24 hours for post-op pain

Consider morphine at 0.1 mg/kg/dose for daily reductions

#### Notify:

- Please notify Pediatric Surgery if patient is not responding appropriately to the above therapy or if there is an escalation in therapy. For example:
  - Poor response to fluid boluses
  - Escalation of ventilator support
  - Persistent acidosis/worsening base deficit
  - Increasing vent pressures/declining tidal volume
  - Poor UOP (<1ml/kg/hr)
  - Change in appearance of the bowel in the silo
  - Wound concerns/Dislodgement of the silo