Fetal shunt placement

L&D Nursing guidelines

Purpose – percutaneous placement of fetal shunt for fetal fluid drainage

Staff:

- Circulator nurse (scrub not necessary, but nice if available)
    - Scrub available in setting of fetus > 23 weeks EGA and there is the potential for cesarean delivery in the setting of fetal bradycardia
- Faculty MFM; physician for sonography; physician as assistant
- Anesthesia

Indications:

- Fetal chest mass with effusion/hydrops fetalis
- Fetal pleural effusion
- Bladder outlet obstruction
- Fetal ascites

Equipment list in OR: (Please check with providers and scrub to ensure all equipment is in room)

- GE US machine from triage
- Probe cover and US sterile drape
- Amnioinfusion equipment:
    - Sterile IV extension tubing (x 3)
    - Three way stop-cock
    - 20 cc syringe (luer lock tip) x 2
    - 1 L NS – to anesthesia (place in warmer line); pressure bag
    - 20 gauge spinal needle
- 11 blade
- cesarean drape
- 10 cc syringe x 3 if amniotic fluid is needed for analysis
- table cover
- raytec pack x 1
- steri-strips + mastisol
- suture scissors
- Harrison fetal bladder shunt kit – after case, ensure two un-opened, not expired kits remain and if not, reorder two additional shunt kits (keep at least two ahead)
- Bandage

Prep/positioning:

- Supine position with left lateral tilt (bovie pad not needed)
- Place foley after spinal – confer with attending and may elect not to place foley if anticipate short case
- Cesarean prep and drape
- SCD's in place

Procedure briefly:

- MFM will perform US to confirm fetal position. IV tubing assembled with luer lock end at fetus end to attach to spinal needed, then 3 way stop-cock, then second and possibly third IV extension tubing to had off to anesthesia. Tubing primed with NS via IV warmer. 20 g spinal needed placed and saline infused via syringe to confirm intra-amniotic placement. Transabdominal amnioinfusion done if needed via 20 gauge needle into amniotic cavity until adequate AF pocket present to allow shunt placement – usually ~ 500-600 ml. Amnio-infusion not usually needed for thoracic shunts. Needle removed.
- Second MFM will load fetal shunt onto guidewire immediately prior to fetal entry. Entry site for shunt trocar confirmed with US and 11 blade stab incision made. Under US guidance the fetal shunt trocar is placed into the amniotic cavity and then into bladder and shunt placed between bladder and amniotic cavity.
- Trocar removed and skin closed with steri strips.

Specimen:

- Usually no specimen
- May have amniotic fluid or fetal urine for karyotype, array, save cells, fetal electrolyte testing (review with MFM)

Post procedure – recovery – discharge:

- Meds: may give Indocin 50 mg po prior to discharge and then 25 mg po q 8 hours x 24-48 hours
- If > plan is for cesarean/delivery for abnormal fetal monitoring, place on fetal monitor post procedure. Review with MFM regarding fetal monitoring needed for individual case.
- Discharge in consultation with MFM when tolerating PO, void without comps, appropriate pain symptoms, spinal resolved.
- Will need follow up in US unit in 5-7 days.