COMBINED SPINAL EPIDURAL FOR AN INTRAUTERINE TERM THERAPEUTIC FETAL PARACENTESIS IN A MULTIPAROUS PARTURIENT WITH SUBSTANCE USE DISORDER

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CASE

36 yo G7P3 at 35 weeks 0 days with

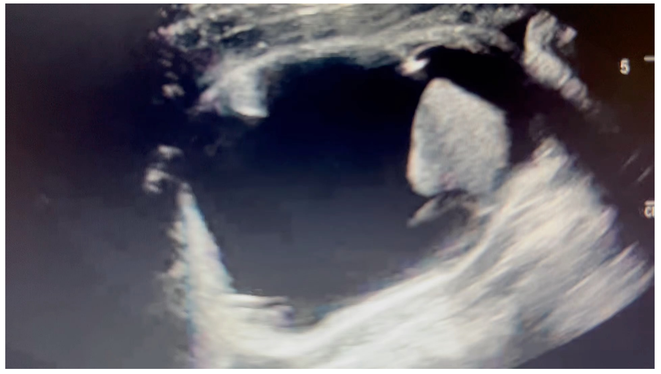
OB Hx

- Fetal abdominal ascites/scalp edema
  - Fetal hydrops (GLB-1 Mutation)
  - Abdominal girth 356.0 mm (>99 percentile)
  - Oligohydramnios

PMHx

- Hypertension
- Substance Use Disorder

Being induced 2/2 to oligohydramnios



MULTIDISCIPLINARY CONCERNS

Fetal breathing and resuscitation

NICU was concerned that abdominal girth would prevent fetal resuscitation and breathing.

Abdominal dystocia

Vaginal vs. Cesarean

Anesthetic management

Considering both mother and fetus for intrauterine procedure and subsequent delivery.

PLAN

Intrauterine Fetal Paracentesis → Induction of Labor

Goals

- After extensive multidisciplinary planning, we focused on the following goals:
  - Maternal:
    - Determining therapeutic approach and what level block we would target
    - Utilizing safe titration of epidural medications to maintain uteroplacental circulation
    - Understanding level of invasiveness to determine density needed of block
    - Uterine relaxation
  - Fetal:
    - Minimizing fetal movement and stress
    - Maintain fetal hemodynamics
    - Minimizing the need for emergent delivery

Anesthetic Considerations

- In order to provide anesthesia for the intrauterine fetal procedure and to provide analgesia for the subsequent induction of labor, we performed a CSE catheter-based technique
- This plan allowed us several advantages
  - The spinal was able to provide a denser block for the procedure
  - The epidural allowed us to slowly titrate the medication in order to prevent swings in maternal mean arterial pressure. This was important as the large abdominal girth of the fetus could interrupt preload and decrease fetal cardiac reserve
  - The epidural could be quickly dosed up for an emergency cesarean section or used for the subsequent induction of labor

  We combined this technique with intraoperative midazolam titrated 1 mg at a time to 4 mg and fentanyl titrated 25 mcg at a time to 100 mcg for maternal anxiolytic. Additionally, this provided some sedation to help prevent fetal movement during the procedure

Results

- 2 entries were made into the fetal abdomen and 225 mL of yellow, clear fluid was aspirated in the operating room
- The patient was transferred to L&D where she delivered vaginally 12 hours later
- The neonate was transferred to the NICU on room air