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INTRODUCTION

- Epidural neuraxial analgesia widely used for pain management in labor/delivery
- Rare complication = **inadvertent placement of catheter into the subdural space**
- Can cause **subdural block** – unpredictable clinical picture differing from typical epidural or subarachnoid blocks
 - Symptoms:
 - Delayed or gradual onset of anesthesia
 - Extensive sensory block with minimal motor involvement
 - Hypotension
 - Intracranial dispersion of anesthetic → **dyspnea, loss of consciousness**
 - Conjunctival injection
 - Miosis
 - Abdominal respiration
 - Epidural hematoma

Case: Pregnant woman in labor with functioning lumbar epidural catheter **developed symptoms consistent with high spinal anesthesia** during urgent cesarean section for category II fetal heart tracing

PATIENT PRESENTATION

26 year old Female G1P0

Gestational age of fetus: 37 weeks and 1 day

Past Medical History: Chronic hypertension, ASCUS of cervix, Sebopsoriasis, Former Smoker

Past Surgical History: None

Medications: None

Pregnancy Complications:
Morbid obesity (BMI 57.17)
Pre-eclampsia in the 3rd trimester

CLINICAL COURSE

- Patient admitted for induction of labor secondary to chronic hypertension
- Labor preparation:*
 - 20G-side-holed lumbar epidural catheter placed at L3-4 interspinous space with 18G x 3.5 in Tuohy needle
 - Completed under ultrasound guidance due to **difficulty palpating vertebral landmarks** with patient’s body habitus
- Negative test dose of 3 mL 1.5% lidocaine with epinephrine 1:200,000
- Epidural infusion of 0.2% ropivacaine at 12 milliliters/hour was started
- After epidural catheter placement, **patient experienced multiple episodes of hypotension.**
 - Accordingly administered intermittent boluses:
 - 100 µg of phenylephrine
 - 5mg of ephedrine
 - 1L of Ringer’s lactate fluid bolus
- Patient reported gradually feeling more fatigued as labor continued
- Fetus now demonstrated intermittent Category II fetal heart tracing**
- Patient underwent an urgent Cesarean Section (C-section)
 - Surgical anesthesia: loading indwelling epidural catheter with 100 µg of fentanyl and a total of 250 mg of lidocaine.
- Blood pressure remained stable and appropriate for C-section, but **fatigue progressively worsened**
 - Shallow breathing with eventual loss of consciousness at end of the procedure**
- Code stroke called → immediate intubation, stabilization, and transfer to ICU
- Work up: **CT and CTA of the head and brain** were performed with **negative findings**
- Patient extubated few hours later and fully recovered

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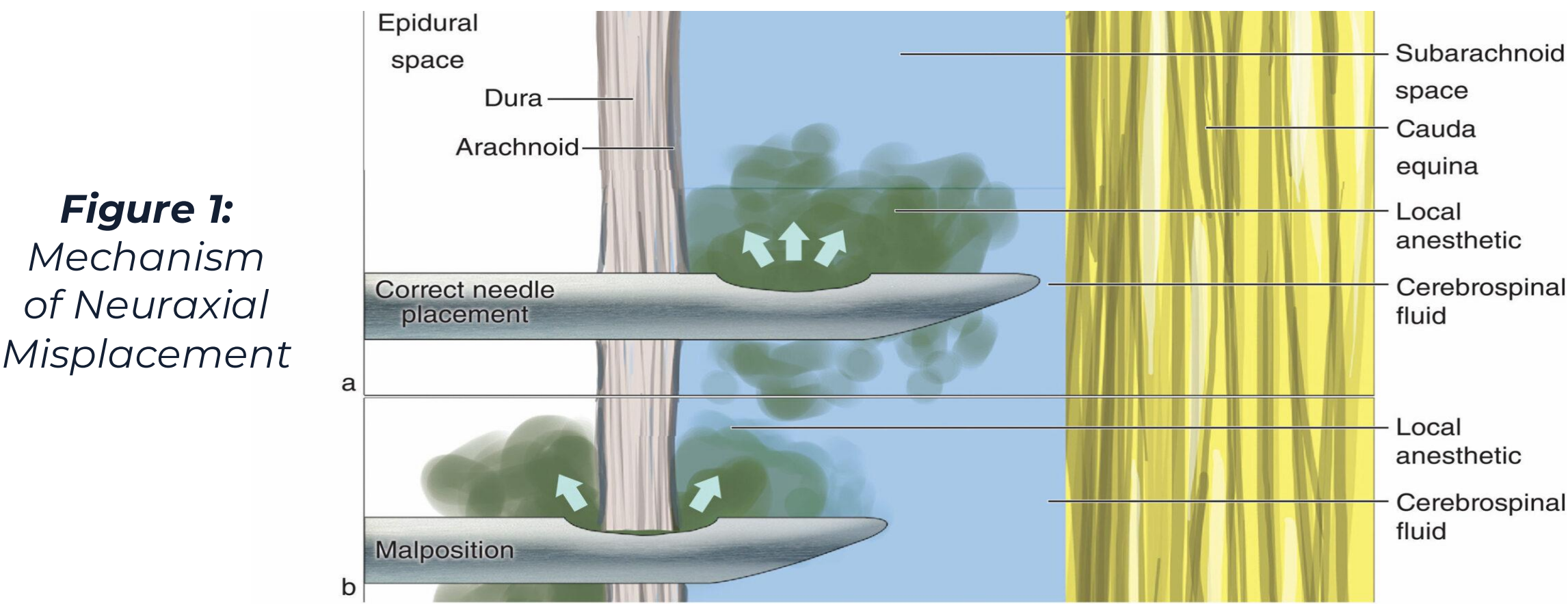
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DISCUSSION

- Elucidates challenges of managing neuraxial anesthesia in high-risk obstetric patients
- Despite precautionary ultrasound guidance, **catheter misplacement into the subdural space can still occur**
- Ropivacaine and later fentanyl and lidocaine into the subdural space likely resulted in **extensive block with intracranial spread**
- Indications of subdural block:
 - Gradual progression of hypotension & fatigue after ropivacaine administration
 - Respiratory depression, fatigue, and eventual loss of consciousness after fentanyl and lidocaine administration



CONCLUSIONS

- Case report describes **pregnant female patient with severe obesity** presenting with **difficult case of epidural neuraxial analgesia** using a lumbar epidural catheter
- Her **risk factors of chronic hypertension and preeclampsia** need to be considered during difficult epidural catheter placement
- Essential to involve additional methods of confirming accurate catheter placement.
- Diverse clinical presentation of subdural block → early recognition, prompt management, and maintaining a broad differential diagnosis critical with unexpected complications during neuraxial anesthesia

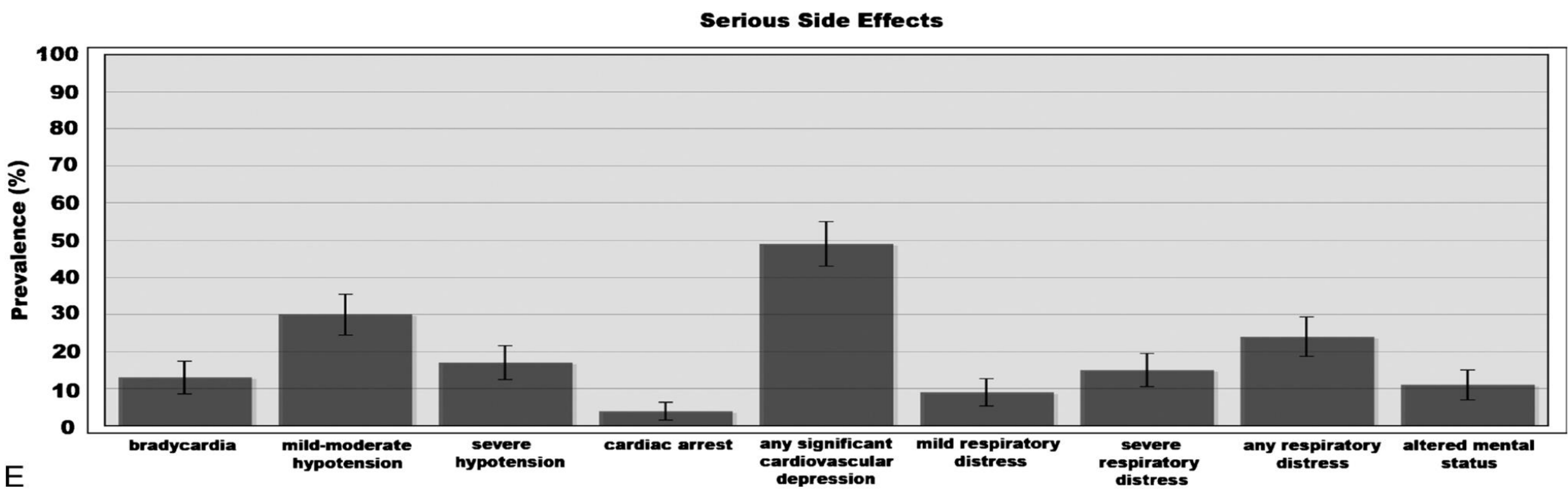


Figure 2. Prevalence of Serious Side Effects in Subdural Block