When the catheter is not where you expect:

A case of subdural anesthesia in an obstetric patient

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BACKGROUND

Subdural anesthesia is a known but relatively infrequent complication of epidural anesthesia in the obstetric population that may be associated with serious consequences. However, because of its broad spectrum of presentation and severity, it is seldom recognized and its true incidence may be higher than what is believed.

CASE REPORT

A **31-year-old woman, ASA II**, was admitted to the maternity unit in active labor. From the preanaesthetic assessment, we highlight:

- No known co-morbidities, prior surgeries or hospitalizations
 - Weight: 70 kg Height: 1,60m
- Obstetric Index: 0030 (spontaneous abortions in the 1st trimester, unknown cause)
 - Gestational age: 40 weeks

Labour analgesia was requested by the parturient. After making the preanaesthetic assessment, an informed consent was obtained to perform a neuraxial technique for pain relief.

An **epidural catheter** was placed, after a strict aseptic technique, at the L3-L4 level at first try, with no apparent difficulties. The epidural space was identified by the loss-of-resistance technique and 4 cm of catheter were left in place. The first epidural administration was done using 20 mg of ropivacaine 0,2% and 10 µg of sufentanil (12 cc volume in total).

2 hours later, an **urgent cesarean delivery** was necessary due to fetal distress:

- The epidural catheter in place was used to perform an epidural anesthesia, using 90 mg of ropivacaine 0,75% and 10 µg sufentanil (14 cc of volume in total);
- 20 minutes into the procedure, the patient developed upper limb paresthesia, global weakness and respiratory distress.
- A rapid sequence induction and intubation was done to manage the situation;
- The epidural catheter was removed and the patient was extubated successfully at the end of surgery.

In retrospect, our patient had some signs and symptoms that we missed and should have alerted us for a subdural placement of the catheter: **slower than usual onset of pain relief, atypical pattern of spread and inadequate pain relief.**

DISCUSSION

Epidural analgesia / anesthesia is a safe choice for labor pain relief but is not exempt of complications, such as subdural anesthesia. The subdural space is classically described as a virtual space with serous fluid, contained between the dura mater and arachnoid. The clinical presentation of the anesthetic block in this space is extensive, ranging from a “normal” presentation of epidural anesthesia, unilateral block, patchy blocks or very high sensory block with minimal motor block.

Our patient presented with signs and symptoms that met **Lubenow’s clinical criteria for the diagnosis of a subdural block**: negative aspiration test and unexpected extensive sensory block, with a delayed onset by more than 10 minutes.

LEARNING POINTS

Subdural anesthesia is a known complication of neuraxial techniques but is relatively easy to miss. Bearing this in mind, we should be aware of the signs and symptoms that may alert us to this possibility.

Subdural placement of an epidural catheter may be considered as one of the main causes of inadequate/ unsuccessful epidural.

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