Unexpected, delayed sensory-motor block after epidural analgesia for labour: a case of subdural block

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POSSIBLE COMPLICATIONS OF EPIDURAL ANALGESIA		
TECHNIQUE	CATHETER IN SITU	MEDICATIONS USED
- Accidental dural puncture - Unintended position (subdural , subarachnoid, IV) - Direct neurologic damage	- Epidural hematoma - Epidural abscess - Catheter migration - Fractured catheter	- Respiratory depression - Hypotension - Motor block - Neurologic toxicity - Medication error - Hypersensitivity reactions

Table 1- Some complications of epidural analgesia.

Introduction: The usefulness of epidural techniques in labour is well established, but not devoid of risks. Subdural block, though rare, is one of the possible complications, with variable severity and an estimated incidence of around 1:4200 epidurals¹.

Figure 1 – Spinal cord and its relation with the meninges.

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Case report: 37-year-old, ASA II, term pregnant patient (39W), arriving to the hospital in labour. Comorbidities: mild asthma (only SOS medication, no crisis for over a month) and migraine.

A lumbar epidural was placed for labour analgesia at the L3-L4 interspace, using an 18G Tuohy needle and the loss-of-resistance technique with saline. After catheter placement there was a small oozing of cold, clear liquid with undetectable glucose levels, consistent with injected saline, and 3 mL of a 0,2% levobupivacaine and 1mcg/mL sufentanyl mixture were administered as a test dose. There were no cardiovascular, sensory or motor changes in the ensuing 5 minutes², leading us to administer the remainder of the solution in a fractionated manner, up to a total of 10 mL (20mg levobupivacaine, 10 mcg sufentanyl). There was complete pain relief in a further 12 minutes.

2 hours later the anaesthesiology team was called due to asymmetric motor block in the lower limbs, as well as a patchy sensory block (areas of normal sensitivity interspersed with areas of hypoesthesia and anaesthesia) extending up to T4, with sacral sparing. She was closely monitored but the complaints gradually subsided, completely reverting in the ensuing 3,5 hours, at which time additional analgesia was required. The previously placed epidural catheter was then removed and the technique repeated at the L2-L3 interspace, uneventfully.

Discussion and Learning points:

- When a subdural block occurs, it typically takes 20-40 minutes to become manifest, causing a higher and denser block than initially expected, often patchy and asymmetric, with sacral sparing¹ – as occurred with our patient;
- Block height is often unpredictable, with the possibility of extending to the upper limbs and face;
- The higher the block, the higher the likelihood of respiratory failure³, mandating close monitoring and timely preparation for anticipated complications;
- Differential diagnosis should include not only subarachnoid block but also the possibility of an epidural haematoma, which is a surgical emergency.
- The temporal pattern of complaints, characteristics of the neurologic examination and reversibility of the clinical picture help make a differential diagnosis;
- As long as the block is not very high it is usually benign, although its asymmetric, discontinuous nature may lead to the coexistence of completely blocked areas with others where there is uncontrolled pain, which poses an added challenge to the anaesthesiologist.