Horner’s Syndrome, Trigeminal Nerve Palsy and Unilateral Brachial Plexus Block with Lumbar Epidural Anesthesia for Labor

Presenting Author: Elsje Harker MD
Presenting Author’s Institution: University of North Carolina - Chapel Hill, NC
Co-Authors: Atif Y Raja MD - University of North Carolina - Chapel Hill, NC
Fred J Spielman MD - University of North Carolina - Chapel Hill, NC

Introduction: Horner’s syndrome is an uncommon side effect of lumbar epidural anesthesia (1). Other neurologic manifestations of epidural anesthesia, including trigeminal nerve palsy and brachial plexus block, are even rarer (2). We present an extraordinary case of an obstetric patient who experienced all these complications: Horner’s syndrome, trigeminal nerve palsy and ipsilateral brachial plexus block.

Case: A 25-year-old G5P4 was admitted in active labor at 38 weeks. Eighteen months prior to this admission, she developed a severe post-dural puncture headache that required two epidural blood patches. Despite this complication, she strongly desired an epidural for this labor. The epidural space was easily entered on first attempt at the L2-L3 interspace. The catheter was easily advanced and secured 5cm in the epidural space. A 3mL test dose of 1% lidocaine was negative. Eight mL of 0.25% bupivicaine with 100μg fentanyl was bolused over ten minutes, and an infusion of 0.083% bupivicaine with 2μg/mL fentanyl was started at 12mL/hr. Ten minutes later, the patient reported left-sided eye and facial numbness. Examination revealed a T4 sensory level bilaterally, left-sided ptosis, miosis and conjunctival injection, and decreased sensation to touch in the ophthalmic and maxillary distribution of the left trigeminal nerve. She also had weakened elbow flexion, extension and hand grip on the left side consistent with brachial plexus block. No respiratory difficulty or drop in blood pressure occurred. The infusion was stopped and all symptoms resolved within one hour. At the patient’s request, we restarted the epidural infusion. She vaginally delivered twins one hour later. The catheter was removed, and she was discharged on post-partum day two with no residual neurological deficits.

Discussion: The epidural space in obstetric patients is smaller in volume due to increased intra-abdominal pressure and engorgement of epidural vessels. Spread of local anesthetic in the cephalad direction with high sympathetic blockade is the most logical explanation of Horner’s syndrome with lumbar epidural anesthesia (3). Subdural block has been suggested as the mechanism in previous cases of trigeminal nerve palsy with Horner’s syndrome. Subdural injection of local anesthetics can cause unusually high spread but the block is typically slow in onset, patchy and asymmetrical (4). This case is unusual in that symptoms began very soon after initial epidural dosing. Her symmetrical block and quick onset of symptoms would be unusual with subdural injection. Alteration in the volume of her epidural space due to twin gestation and/or from two previous blood patches may have caused excessive cephalad spread of local anesthetic.

References: