A CASE OF UNILATERAL HORNER'S SYNDROME DIAGNOSED IN RETROSPECT FOLLOWING EPIDURAL ANALGESIA DURING LABOUR AND CAESAREAN SECTION

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Abstract

Horner's syndrome is a rare complication of epidural analgesia in labour. Although it is a sign of high sympathetic block, patients are usually haemodynamicaly stable.

We report a case of undiagnosed Horner's syndrome complicating epidural analgesia in labour, where a standard dose of local anaesthetic was given for an emergency caesarean section without problems. This may confirm the benign nature of the syndrome.

Case Report

A 23 year old, healthy primigravida (ASA status 1) who requested an epidural analgesia while in established labour. An epidural catheter was sited in the L¾ interspace without difficulty. The patient was placed in a left lateral position and 20 ml of 0.1% ropivacaine with 50 μg of fentanyl was injected through the epidural catheter in incremental doses. Satisfactory pain relief was confirmed and a sensory block at T8 level on both sides was documented using loss of sensation to cold stimulus. A continuous epidural infusion of 0.1% ropivacaine with 2 μg/ml of fentanyl was started at the rate of 12 ml per hour. Over the next six hours the patient required two top ups for break through pain, 12 ml of 0.1% ropivacaine was injected epiduraly each time over continuous epidural infusion.

The obstetricians decided for caesarean section for non progress of labour and a non reassuring CTG. In the operation theatre the patient was given an epidural top up of 20 ml of 0.5% bupivacaine with 100 μg of fentanyl in incremental doses. An intravenous infusion of 1000 ml of Ringer lactate was started. The level of the block was at T6 after 15 minutes. A healthy baby was then delivered with normal Apgar scores. The course of anaesthesia was uneventful and there was no haemodynamic or respiratory compromise. The patient did not require any vasopressor to maintain haemodynamic stability intraoperatively.

Next day during the routine postoperative visit, the patient complained that she was feeling numbness over the left side of her face and heaviness in the left eye. On examination she had ptosis of the left eye lid, miosis, dryness and flushing of the left side of her face. The patient was diagnosed as having left sided Horner's syndrome.

A detailed history revealed that shortly after the epidural was sited, the patient's partner noticed that her left eye looked smaller, but he did not mention this to the anaesthetist as he thought it

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was not relevant. The couple were reassured regarding the benign nature of the syndrome. They were advised that no additional intervention or investigations were required at this time. The next day, almost 44 hours after the epidural block, all the signs of Horner's syndrome had resolved.

In this case Horner's syndrome was associated with a sensory analgesia at T8 level during labour analgesia. The oculosympathetic supply to the pupil, conjunctiva and eye lid originates from the spine from C8 to T2 level as second order neurons to terminate in superior cervical ganglion. This is the probable site of pharmacological interruption after epidural analgesia. Ray et al have demonstrated that the sympathetic nerve supply to the pupil and opening of eye may be coming from a level as low as T4[1]. Preganglionic B sympathetic fibres are highly sensitive to local anaesthetics, and can be blocked several spinal segments above the level of sensory block[2].

Although Horner's syndrome is a sign of high cephalad spread of the local anaesthetic block, there are no reports of serious complications. It is rarely associated with haemodynamic complications, such as severe hypotension or bradycardia.[3] James et al reviewed the reported cases of Horner's syndrome and described the mean time of resolution as 215 minutes (ranging from few minutes to 24 hours)[4].

A possible explanation for the prolonged recovery period, 44 hours in our case, could be the effect of giving a high dose of bupivacaine 0.5% to maintain adequate analgesia for caesarean section, in the presence of undiagnosed Horner's syndrome. It was reported by others that additional doses of local anaesthetic drug were injected in the epidural space in order to achieve adequate sensory analgesia in the presence of Horner's syndrome[3]. However, compared to this case the doses injected in previous cases were significantly less.

Horner's syndrome is apparently a benign complication of epidural analgesia in obstetrics[5]. Compared to the general population there is a higher incidence of Horner's syndrome in parturients having epidural analgesia in labour. The incidence reported varies from 1.33% during lumbar epidural block for labour to 4% for caesarean section[6]. Patients who develop the symptoms can be reassured about the self limiting nature of the syndrome which would not need additional investigations or treatment, in most of the cases.

References

1. Ray B S, Hinsey J C, Geohegan W A. Observations on the distribution of the sympathetic nerves to the pupil and upper extremity as determined by stimulation of the anterior roots in man. *Ann Surg*; 1943, 118:647-655.
2. Heavner JR, De Jong RH: Lidocaine blocking concentrations for B- and C-nerve fibres. *Anesthesiology*; 1974, 40:228-233.
3. Sprung J, Haddox JD, Maitra-D'Cruze AM: Horner's syndrome and trigeminal nerve palsy following epidural anaesthesia for obstetrics. *Can J Anaesth*; 1991, 38:767-771.
4. Lynch JH, Keneally RJ, Hustead TR: Horner's Syndrome and Trigeminal Nerve Palsy following Epidural Analgesia for Labor. *J Am Board Fam Med*; 2006, 19:521-523.
5. Biousse V, Guevara R A, Newman NJ: Transient Horner's syndrome after lumbar epidural anesthesia. *Neurology*; 1998, 51:1473-1475.
6. Clayton KC: The incidence of Homer's syndrome during lumbar extradural for elective Caesarean section and provision of analgesia during labour. *Anaesthesia*; 1983, 38:583-585.