

Local anesthetics resistance in an obstetric patient for epidural analgesia/ anesthesia

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Introduction

Local anesthetic (LA) resistance in labour analgesia and epidural anesthesia is quite a rare phenomenon encountered in clinical practice. There are very few reported cases of local anesthetic resistance in neuraxial anesthesia. We report a case of local anaesthetic resistance for labour analgesia and anesthesia in an obstetric patient who required an unexpectedly high dose of local anesthetics.

Case

30 Yo Female, G2P1 was admitted for induction of labour. She had an epidural for labour analgesia. Her pain relief was not satisfactory. She had 2-3 local anesthetic top-up doses but pain relief was still not satisfactory. Considering the possibility of catheter malplacement, it was decided to place a new epidural. The 2nd epidural was placed easily and a test dose was used to confirm proper position. Patient still c/o inadequate pain relief. Dose and concentration of local anesthetic was increased which provided slightly more relief to patient. Meanwhile she was rushed to the operating room (OR) for Em LSCS . For quick onset of epidural, 20 ml chloroprocaine was used for epidural anesthesia along with fentanyl. After checking the adequacy of the motor and sensory block, surgery was started. She started c/o of pain in 10 minutes. Additional doses of chloroprocaine and lidocaine were given as the effect lasted only 10-15 minutes. Total of 30 ml of chloroprocaine, 15 ml of lidocaine and 10 ml of bupivacaine was used via epidural catheter for 1 hour 15 minutes LSCS. Lateron, on patient informed that many of her relatives had red hair.

Discussion

Local anaesthetic (LA) resistance in labouring patients is quite uncommon and so many anesthesiologists did not suspect it. Usually, If a patient is not having adequate relief with labour epidural despite top -up doses, malplacement of epidural catheter is suspected to be the underlying cause and replacement of epidural solves the problem. In, Our patient , 1st epidural was placed without any issue. Still, the patient had inadequate pain relief. So,we inserted another epidural catheter. But the patient still had inadequate relief and needed significantly higher doses of local anesthetics for labour analgesia and anesthesia for LSCS. Higher requirement of GA is well documented in red haired individuals but LA resistance in red haired individuals is not very well known or studied. Genetic variations i.e. local anesthetic receptor mutations and sodium channel abnormalities might account for this kind of LA resistance .

Conclusion:
While the failure of labour analgesia/ anesthesia is most commonly attributed to technical failure or malplacement of epidural catheter, possibility of LA resistance should also be considered in patients having inadequate pain relief with epidural. LA resistance may likely be more common in patient with red hair and hypermobility syndrome

Reference

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