INTERESTING CASES

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## Abducent nerve palsy following an inferior alveolar nerve block

Use of local anaesthetics has become an inevitable part in dentistry. Dental practitioners all over the world administer local anaesthetic injections, one of the commonest being the inferior alveolar nerve block. Majority of them are safely delivered although occasional complications may occur. A number of local and transient complications like haematoma, blanching of tissues, trismus, and facial nerve palsy have been reported. Very rarely orbital complications after intra-oral dental anaesthesia have been reported and include strabismus, ptosis, diplopia, opthalmoplegia and amaurosis.

A 40-year-old female patient reported to the Department of Oral and Maxillofacial Surgery for multiple extractions in the lower left quadrant. She had no contributing medical history and had no previous history of extraction.

She was given a conventional left inferior alveolar nerve block with a 25 gauge disposable needle of 1 inch length. 2ml of 2% lignocaine in 1:200000 adrenaline was administered. Only single plane aspiration was done which was negative. The anaesthesia was effective fulfilling all objective as well as subjective signs. The injections were administered rapidly by a junior resident with the patient lying in a supine position.


**Fig. 1** The left eye cannot be abducted past the midline

In a period of 5 minutes after administration of local anaesthesia patient complained of double vision. The patient's vital signs were stable. Ocular examination revealed normal pupillary reflex with proper visual acuity. The patient had full extra ocular movements in all directions except that the left eye could not be abducted past the midline (Fig. 1). There was no evidence of ptosis, proptosis, conjunctivitis or epiphora.

The diplopia persisted for 10 minutes, following which the extractions were completed uneventfully. The patient was reviewed periodically and she had no further ocular complaints.

Aspiration prior to injection plays an important role in preventing intravascular injections. Slow injections are mandatory. Although initial aspiration shows a negative finding, minor movement of patient or needle may cause penetration of arterial wall and subsequently local anaesthetic solution injected into the vascular system.

It has been advocated to perform aspiration twice before injecting local anaesthesia. The second aspiration should be performed by rotating the syringe barrel by 45° in order to ensure that the bevel of the needle is not located inside a blood vessel but abutting against the wall of the vessel, providing a false negative aspiration. Several additional aspiration tests helps to slowdown rate of anaesthetic administration and preclude the deposition of large volumes of anaesthetic into cardiovascular system.

In retrospect rapid injection and single plane aspiration could be a cause for the diplopia in this particular case.

### References

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