

### 33. Diplopia due to local anesthesia. A very rare complication

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**Introduction:** Local anesthesia for dental procedures is considered relatively safe since, apart of anaphylactic reactions, only rare complications are reported. Visual disturbances such as diplopia that is presented below account for 0.1% of all complications.

**Method:** A 57 year old woman was administered a posterior superior alveolar nerve block for the dental filling of the first right molar tooth with the use of Articaine Hydrochloride 4% with Adrenaline 1:100,000 in a 30 gauze syringe. Soon after she complained of diplopia and dizziness and was referred for evaluation by a specialist. Psychiatric evaluation did not reveal any psychopathology other than the presence of great distress. Neurological examination revealed horizontal diplopia and limitation of the lateral rectus muscle to abduct the right eye. Pupil reaction was normal and no ptosis was present. It was diagnosed right abducent nerve palsy. The patient was reassured of the transient nature of symptoms and the eye was covered to minimize nausea. Symptoms resolved gradually after 90 min.

**Results:** Literature suggests that diplopia occurs most frequently after maxillary injections (77.8% vs 57.1% for mandibular injections) and after posterior superior alveolar nerve block. Various mechanisms, other than improperly placed nerve block are proposed. The most possible hypothesis of retrograde flow of anesthetic solution into the venous system explains that the anesthetic solution, after an accidental entry into the venous system, will drain into the pterygoid venous plexus, and at last into the cavernous sinus, where the abducent nerve is sited. These complications may be related to anatomic variations

**Conclusion:** Diplopia during local anesthesia is very rare and usually transient, however is very alarming and might lead to medicolegal issues. Generally is proposed to always aspirate before injection, stop any procedure and refer the patient if symptoms persist.

#### References

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