

Eyelid infiltration with local anaesthesia - Pearls of Wisdom

Soham S Pal¹, Jaichandran V V², Nisar Sonam Poonam¹, Nirmala Subramanian¹

¹Department of Oculoplasty, Sankara Nethralaya

²Department of Anaesthesiology, Sankara Nethralaya

Dear Sir/Madam,

Cosmetic or functional eyelid surgeries such as blepharoptosis repair, correction of entropion, ectropion and blepharoplasty are usually performed by infiltration of the eyelid tissues with local anaesthesia. The mechanism of action through infiltration is that the local anaesthetic blocks the sensory nerve endings of the infratrochlear nerve. Many minor complications like bruising, eyelid hematoma to few major complications like globe penetration, central retinal artery occlusion, vitreous hemorrhage, choroidal rupture and retinal detachment have been reported.¹⁻⁴ In this research letter, the authors stress upon some basic methods to be adopted to prevent the occurrence of the above mentioned complications and to ensure a safe eyelid infiltration with local anesthesia.

Address for correspondence:

Dr Jaichandran V V
Deputy Director,
Department of Anaesthesiology
Sankara Nethralaya, Chennai
Email ID: drvvj@snmail.org

Article History

Received: 29th April 2022

Revision: 10th May 2022

Accepted: 31st May 2022

Published: 13th July 2022

During preoperative assessment, it is important and mandatory to determine whether the patient is taking any blood thinner medications or herbal drugs like ginkgo biloba. If the patient is already on anticoagulant medication, then with the concurrence of the treating physician, it can be withheld accordingly, until the effect wears off.

On the operating table, patient has to be positioned at a comfortable working distance and in a supine posture with good overhead illumination. Before infiltration, corneal protectors in the form of a corneal conformer or a spatula must be used, Figure 1. The needle hub must be securely fastened to a dry syringe tip, maximizing the friction force holding the needle in place. Alternatively, a Luer-lock syringe can be used. 1.5-inch, 27-gauge needle allows for long passes beneath the skin, decreasing the number of times the tissues are entered, thus causing less pain and bruising. A 0.5-inch, 30-gauge needle can be substituted for smaller areas of infiltration. Needleless jet injection devices are not advised to be used because posterior segment trauma has been reported.⁴ Bending the needle at 30 degrees from the hub is another good practice reported by some authors which can reduce the complications.⁵

How to cite this article: Soham SP, Jaichandran VV, Nisar Sonam P, Nirmala S. Indian J Ophthal Anaesth 2022;2(2):20-1

Also, positioning of a non-injecting hand on the forehead or cheek allows for better visualization and stabilizes the patient. The needle should be oriented parallel to the skin, bevel facing upwards, and passed superficially,

Figure 1 Eyelid infiltration performed with 27G 0.5-inch needle



It is important to instruct the patients not to look away from the site/areas of injection, as this causes traction of the posterior segment and it pulls them closer to the needle tip. Posterior segment trauma is more difficult to manage than corneal or anterior segment trauma. Lastly, because of lower flow volumes through small-bore needles, greater force to syringe plungers may be applied when using a needle with a gauge of 27 or higher. This increases the force transmitted to the face of the needle hub, making needle expulsion more likely. The plunger should be advanced slowly and steadily.⁶

In case, while injecting if there is any resistance felt due to dense scar tissue or abnormal movement of the globe is observed one should not advance the needle or inject the local anaesthetic solution further, without examining or ascertaining the needle position or patency. If there is any bruise or a hematoma is suspected,

firm pressure should be immediately applied for 1 to 2 minutes until bleeding stops.

Eyelid infiltration though appears as a simple technique it has to be performed very carefully. Because of the thin and delicate nature of the upper eyelid, the needle can easily be passed full thickness through the eyelid or result in inadvertent ocular complications. For a safe eyelid infiltration anesthesia, a thorough knowledge of eyelid anatomy and an increased level of awareness are essential.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Lowry JC, Bartley GB. Complications of blepharoplasty. *Surv Ophthalmol.* 1994;38(4):327-50
2. Callahan MA. Prevention of blindness after blepharoplasty. *Ophthalmology.* 1983;90(9):1047-51
3. Mahaffey PJ, Wallace AF. Blindness following cosmetic blepharoplasty: a review. *Br J Plast Surg.* 1986;39(2):213-21
4. Lee JE, Choi HY, Lee JS, Oum BS. Posterior segment injury developed after injection of anesthetics on eyelids with needleless jet injection device. *Graefes Arch Clin Exp Ophthalmol.* 2007;245(1):173–175.
5. Vagefi MR, Lin CC, McCann JD, Anderson RL. Local anesthesia in oculoplastic surgery. *Archives of Facial Plastic Surgery.* 2008 Jul 1
6. Lin DJ, Sami MS, Burroughs JR, Soparker CN, Patrinely JR. Ocular injury from local anesthetic injections: needle expulsion—the luer-lok allure. *Archives of Facial Plastic Surgery.* 2006;8(6):436.