Subcuticular Suture Technique: Alternative to Frost Suture to Prevent Ectropion After Transcutaneous Incision of Lower Eyelid

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Abstract

Introduction An ectropion is a complication that can arise from reconstruction in the infraorbital region. Often, this complication occurs despite proper positioning of the lower lid at the time of closure. Various transcutaneous approaches to orbit skeleton have investigated in view of complication arising from them. A subtarsal approach with a postoperative Frost suture gives an advantage to reduce the occurrence of ectropion especially after treatment of orbital floor fractures.

Material and methods This case describes a method of subcuticular suturing technique for subtarsal incision of lower lid which can be used to support the lid during healing period, thus decreasing the rate of ectropion.

Conclusion The technique described here is an alternative method for frost suturing with certain advantages.

Keywords Subtarsal incision · Ectropion · Frost suture

Introduction

Various transcutaneous approaches to orbit skeleton have investigated in view of complication arising from them. The rate of postsurgical scleral shows and/or ectropion in a recently published meta-analysis has established that after a subciliary incision is 14% compared with 3.8% for a subtarsal incision and 1.5% for a transconjunctival incision [1].

The most common cause for the ectropion following the transcutaneous incision of the lower eye lid is because of the division of the anterior lamellar structures which often leads to cicatricial adhesions; this can then lead to lower lid retraction, which is often a consequence of corneal exposure and cosmetic deformity. Loss of soft tissue elasticity can lead to lower lid ptosis, causing corneal exposure and scleral show independent of cicatricial ectropion. To prevent this, horizontal lid tightening and resuspension are indicated in patients especially with lax lower lids [2].

Frost suture is the most commonly used technique to prevent ectropion of lower eyelid with many modifications which gives lid vertical stability and prevent contracture during healing which could cause ectropion.

- A. Taking the bite only through the lower eyelid tarsal plate instead of taking the bite through both the lower and upper tarsal plates and securing it to the forehead by suturing or using the adhesive tapes [3].
- B. The lower eyelid splinting effective in maintaining lower eyelid position postoperatively associated with minimal complications and the splint was tolerated well with less risk of corneal abrasion and the splint can be used bilaterally [4].
- C. One of the other modifications was in the securing the Frost suture to the angiocatheter on the skin of the forehead [5].

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Fig. 1 Subcuticular sutures with ends tied outside the wound to facilitate upward pull of suture line to support the lid margins

However, the placement of a Frost suture itself may add to morbidity, restraints clinical evaluation in the immediate postoperative period and produces imperative patient discomfort.

Operative Technique and Its Advantages

The present technique of subcuticular suturing in which bite is taken outside wound margin from one side into the wound after which bites are taken into the subcutis

according to standard subcuticular technique the needle is got out the wound and adjusted for tension on the suture line and knotted, unlike standard subcuticular technique knots are placed either side of suture line (Fig. 1a).

The advantages of this technique are

1. Suturing technique used to close the wound, and same are used to traction the lower eyelid upwards.
2. Adhesive strips are used, and tension can be easily adjusted.
3. No closure of eye as the traction suture is away from the lower eyelid but still giving traction and holding it upwards.
4. It is easy to perform postoperative checks of the patient vision and to apply topical agents.
5. Most important advantage is that this technique relies on tension acting on both ends of suture line (incision) and helps in re-draping the soft tissue. This technique avoids the pressure necrosis which is commonly associated with frost suture (Fig. 1b).

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