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Three-suture technique addresses involuntional entropion in the office

Procedure provides a firm adhesion between the orbicularis and the capsulopalpebral fascia.

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There have been many published procedures addressing the repair of involuntional entropion. This article revisits the use of the three-suture technique first described by Quickert and Rathbun. Bengner and colleagues described the initial problem of early involuntional entropion as a function of lower eyelid vertical laxity. Horizontal laxity may develop from chronic tension produced by horizontal tarsal elongation. With that in mind, the majority of cases of early involuntional entropion could be addressed initially by the three-suture technique described in this article. We acknowledge that the procedure does not address horizontal lid laxity and is not a permanent solution to the problem. This technique proves a valuable instrument in the surgeon's armamentarium in treating patients with involuntional entropion.

Entropion is characterized as the turning inward of the eyelid margin. This could be known to cause ocular surface irritation and discomfort for the patient, secondary to contact between cilia or keratinized skin with the ocular surface. When classifying types of entropion, it is useful to consider each one separately in order of pathophysiology and treatment. Classically, entropion has been categorized into spastic, involuntional, congenital and cicatricial. The latter two are beyond the scope of this discussion, and the focus will be on spastic and involuntional entropion in regard to in-office repair using rotational sutures.

Involuntional, spastic

Involuntional entropion is accepted as the most common cause of lower eyelid malposition. Most concur that the pathophysiology of involuntional entropion is threefold: dehiscence of the lower lid retractors, thus permitting the inferior tarsal margin to move in an anterior fashion; horizontal eyelid laxity; and overriding of the pretarsal and preseptal orbicularis muscle. Originating from the inferior rectus muscle, the capsulopalpebral fascia divides around the inferior oblique muscle and combines to form Lockwood's ligament, which continues as the capsulopalpebral fascia and the inferior tarsal muscle. With dehiscence of the lower eyelid retractors, they do not succeed in pulling the inferior tarsus in an infero-posterior direction, thus allowing the inferior tarsus to travel unopposed supero-anteriorly. While blinking, the preseptal portion of the orbicularis muscle tends to override the pretarsal portion, thus moving the upper portion of the eyelid toward the globe.

Acute spastic entropion is known to occur after an inflammatory eye disease or recent ocular surgery. It is described as a spasm leading to the preseptal portion of the orbicularis muscle overriding the pretarsal orbicularis, resulting in an inturning of the lower eyelid margin. This phenomenon is occasionally seen after cataract surgery, especially with a cul-de-sac injection of steroids, anesthesia or antibiotics. Botulinum toxin has been shown to be successful in ending the orbicularis spasm, thus ceasing the orbicularis muscle from overriding. Many cases of spastic entropion resolve when the ocular irritation has subsided. In some instances, there is an actual dehiscence of the capsulopalpebral fascia resulting in a more permanent involuntional type of entropion.

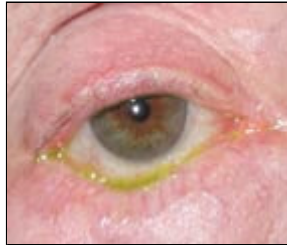
Technique

Quickert and Rathbun originally described a technique for full thickness placement of sutures through the lower lid to address early involuntional entropion and congenital epiblepharon. This procedure is ideal for accomplishing a firm adhesion between the orbicularis and the capsulopalpebral fascia. This addresses the main cause of acute spastic entropion developing into involuntional entropion, which is dehiscence of the lower eyelid retractors. We would like to revisit this procedure in cases of spastic entropion and involuntional entropion. Although it is not a permanent solution and does not address the pathophysiologic contribution of horizontal lid laxity, it is a great temporizing solution for a problem presenting significant irritation to a patient. The procedure can be performed in the office or for a chronically

ill patient at the bedside.

There are two simple ways to evaluate for dehiscence of the lower lid retractors. The first involves having the patient look down. Normally the lower lid will descend several millimeters (3 mm to 4 mm), and loss of this downward movement indicates disinsertion. A second approach to detect a dehiscence of the lower lid retractors is by examining the cul-de-sac for a white band, which separates the lower lid retractors from the tarsal border. If this dehiscence is noted, the three-suture technique could prove optimal management.

The three-suture technique is displayed in the accompanying series of figures.



Six-month history of inturning of lower eyelid margin after cataract surgery.



1% xylocaine with 1:100,000 epinephrine injected into area of regard.



After injection of anesthetic, eversion of eyelid margin occurs secondary to a laxity of the previously overriding portion of the orbicularis.



Sutures are placed deep into the fornix. A 5-0 suture double armed curved needle is preferred.



First suture placed in the medial third of the lower eyelid deep in fornix to raise lower lid retractors.



The second arm of the suture exits 2 mm, at the same level and adjacent to the first arm.



The suture is pulled taut and tied with care not to strangulate the tissue.



The suture exits the skin about 2 mm below the lashline.



Third suture placed lateral to lateral limbus.



The second arm of the double armed suture is placed about 3 mm



Three sutures in place with lid properly everted. Immediately after the

adjacent and at the level
of the first arm.

procedure, a slight
ectropion is ideal.

(All photographs courtesy of
Robert M. Schwarcz, MD.)

For Your Information:

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