Comparison between Surgical Outcomes of Tarsal Marginal Rotation and Bilamellar Tarsal Rotation for Upper Eyelid Cicatricial Entropion

Thesis

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Contents

List of Abbreviations

SJS	:	Stevens–Johnson Syndrome
µm	:	Micrometers
µw	:	Microwatts
BCVA	:	Best-corrected visual acuity
C.	:	Chlamydia trachomatis
CO	:	Corneal Opacity
ECAs	:	Eyelid Contour Abnormalities
GET202	:	Global Alliance for the Elimination of
LTS	:	Lateral Tarsal Strip
M.	:	Musca sorbens
mm	:	Millimeter
MMP	:	Mucous Membrane Pemphigoid
nm	:	Nanometers
ºC	:	Degrees Celsius
P value	:	Probability value
PERT	:	Partnership for Rapid Elimination of
SAFE	:	Surgery for trichiasis, Antibiotics for infection, Facial cleanliness, and Environmental improvements
SD	:	Standard Deviation
TF	:	Trachomatous inflammation– Follicular
TI	:	Trachomatous inflammation – Intense
TMR	:	Transcutaneous Tarsal Marginal Rotation
TS	:	Trachomatous Scarring
TT	:	Trachomatous Trichiasis
WHO	:	World Health Organization
X2	:	Chi- square

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Abstract

Eyelid entropion is a condition in which the margin of the eyelid is inverted against the corneal and conjunctival surfaces, causing damage to these structures as a result of eyelashes and skin friction.

Upper lid entropion is most commonly an acquired condition and usually occurs secondary to many cicatrizing processes, such as trachoma, which is the most commonly encountered cause of cicatricial entropion in Egypt.

Different procedures for lid margin rotation have been used to correct the upper eyelid cicatricial entropion.

A recent study had demonstrated that using a lid crease incision combines the basic mechanisms of the anterior and posterior approaches and in addition, it addresses a variety of lid problems commonly found in the aged population with cicatricial entropion.

Our aim is to compare the surgical outcomes of two procedures done for upper eyelid cicatricial entropion, "Transcutaneous Tarsal Marginal Rotation" or "TMR" Vs "Bilamellar Tarsal Rotation" or "BLTR".

Keywords:

Entropion, Trachoma, Tarsus, Bilamellar

INTRODUCTION

Eyelid entropion is a condition in which the margin of the eyelid is inverted against the corneal and conjunctival surfaces, causing damage to these structures as a result of eyelashes and skin friction. Hyperemia, foreign body sensation, lacrimation and vision loss are concurrent complaints. Secondary infection may also occur. [1]

Upper lid entropion is most commonly an acquired condition and usually occurs secondary to many cicatrizing processes, such as trachoma, chronic blepharo-conjunctivitis, Stevens–Johnson syndrome (SJS), or trauma.[2] Trachoma is the most commonly encountered cause of cicatricial entropion in Egypt. [3]

Trachoma is still one of the leading causes of blindness especially in many developing countries of Africa, Asia, Latin America, and Oceania.[4],[5] It is the third most common cause of visual handicapping after cataract and glaucoma worldwide.[6]

Trachoma is caused by ocular infections with Chlamydia trachoma is (C. trachoma is) which results in chronic inflammation of the eyelids. These infections occur mainly in children, peaking around age 1–5 years and declining thereafter. This chronic inflammation of the eyelids produces scarring of the conjunctiva that can subsequently cause entropion trichiasis, resulting in inward rolling of lid margin and eyelashes. The rubbing eyelashes

as well as other alterations of the eye, such as lacrimal function and corneal limbus, harm the cornea and may cause pain, corneal opacity and consequent vision loss. [7]

Since the 19th century, different procedures for lid margin rotation have been used to correct the upper eyelid cicatricial entropion. [8] Anterior approach procedures are typically performed with a through-and-through incision placed 4 mm from the lash line. External sutures are then used to rotate the lid margin. Variations of this procedure have been described by Green, Pannas, Hotz [8], [9] and recently by Wies [10] and Ballen [11]. The World Health Organization (WHO) has renamed the Wies/Ballen procedure Bilamellar tarsal rotation (BLTR) and recommended it as a standard modality to correct trachomatous cicatricial entropion. [12]

In 1949, Trabut was likely the first to use a different approach to manage cicatricial entropion; a conjunctival incision is used to divide the tarsal plate into two fragments. After creating a plane between the orbicularis and both tarsal fragments, the proximal tarsus is advanced over the marginal tarsal fragment with sutures exiting on the lash line. This simple procedure creates a downward vector on the marginal portion of the tarsus, which rotates the margin upwards. [13]

A recent study had demonstrated that using a lid crease incision combines the basic mechanisms of the

anterior and posterior approaches and in addition, it addresses a variety of lid problems commonly found in the aged population with cicatricial entropion. After tarsal plate exposure, a tarsotomy through conjunctiva is performed as described by Trabut. Then, instead of using external sutures secured by bolsters, internal absorbable sutures can be used to simultaneously advance the proximal tarsal fragment and exert strong tension on the marginal orbicularis muscle. [14]

Thus it appears that we have 2 major relatively simple techniques to deal with cicatricial upper eyelid entropion.