ANTERIOR LAMELLAR REPOSITION WITH WEDGE RESECTION VERSUS ANTERIOR LAMELLAR REPOSITION IN THE TREATMENT OF MILD ENTROPION ASSOCIATED WITH TRICHIASIS

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ABSTRACT

To compare the efficacy of anterior lamellar reposition combined with wedge resection versus anterior lamellar reposition in the treatment of mild upper lid entropion associated with trichiasis. Forty four eyelids of 32 patients suffering from upper eyelid mild entropion associated with trichiasis were randomly allocated to undergo either anterior lamellar reposition with wedge resection (Group A= 21 lids) or anterior lamellar reposition only (Group B= 23 lids). The two procedures were compared for improvement of symptoms, rate and type of complications, failure, and recurrence. There were 18 males and 14 females with age ranging from 47 to 68 years. The two procedures were comparable in anatomical correction and rate of complications (p = 0.56). Recurrence occurs in two cases (9.5%) in group (A) and in one case (4.3%) in group (B). (P=0.7).This study suggests that anterior lamellar reposition only can correct cases of mild upper lid entropion associated with trichiasis and its results are comparable with anterior lamellar reposition with wedge resection.

INTRODUCTION

Entropion is in-rolling of lid margin and it may be congenital or acquired. Acquired entropion may be involutional, cicatricial or mechanical. Upper lid entropion is mainly cicatricial as involutional type is rare due to wider tarsus in upper lid [(1-4)].

Cicatricial entropion caused by relative shortage of posterior lamellae in comparison to anterior lamellae due to infection (e.g. trachoma), trauma (burn) or degenerative disease (e.g. pemphegoid). Mild entropion shows apparent migration of meibomian gland orifices, conjunctivalization of lid margin and lash-globe contact on up-gaze [(5,6)].

Trichiasis, a very common lid margin abnormality with varied aetiology, is defined as the misdirection of eyelashes rubbing against the globe. It may be diffuse across the entire lid or in a segmental distribution [(7,8)]. Terminal tarsal rotation after transverse tarsotomy, tarsal rotation with posterior lamellar advancement and anterior lamellar repositioning with lid margin split and wedge resection of tarsus are established procedures in the surgical correction of moderate to severe (without lid gap) cicatricial entropion. [(9-13)]

The aim of the study is to compare between the anterior lamellar reposition combined with wedge resection and anterior lamellar reposition only in the treatment of mild upper lid entropion associated with trichiasis regarding the success rate and rate of complications.

PATIENTS AND METHODS

Forty four eyelids of 32 patients suffering from upper eyelid mild entropion associated with trichiasis were operated between December 2009 to October 2010 in Ophthalmology Department, Zagazig University. The cases were divided into two groups: group (A) (21 eyelids) was operated by anterior lamellar reposition with wedge resection while group (B) (23 eyelids) was operated by anterior lamellar reposition only.

Congenital trichiasis, trichiasis with severe symblepharon or severe ocular surface disease and recurrent trichiasis secondary to a failed tarsal rotation procedure were excluded from the study.

Operative procedure:

In group (A), the patients undergo operation of anterior lamellar reposition and wedge resection as follow: One drop of 3% Benoxinate eye drops was placed on

to the globe, and the surgical site was then anaesthetized with 1 ml of 2% lidocaine. The skin incision was made at site of lid crease (Fig.1-a). The anterior lamella (skin & muscle) is dissected from the tarsus to separate it form the posterior lamella until the lash roots are just visible (Fig. 1-b&c). Part from the skin is excised from the upper edge (Fig.1-d). An absorbable 6/0 suture (Vicryl) is passed through the skin just above lashes, into the tarsal plate at a higher level, and out through the skin again about 2 mm from and at the same level as it entered the skin (Fig.1-e) (the height of the tarsal fixation controls the lash eversion). These sutures allowed the anterior lamella of the lid margin with lashes to be completely shifted upwards from the posterior lamella without tension. The skin is closed with interrupted sutures (Vicryl 6/0). These sutures should pick up the aponeurosis to create the skin crease. Then, two incisions are made, one in grey line and other anterior the misdirected lashes → wedge between the two incisions is removed (Fig.1-f). The wound is leaved to heal by granulation tissue.

While in ***Group (B):*** the patients undergo operation of anterior lamellar reposition only. Following surgery, the eyes were dressed with 0.3% ciprofloxacin eye ointment, a pad and bandage for one day. Oral antibiotics and analgesics were prescribed for 5 days. Locally, 0.3% ciprofloxacin eye ointment was applied twice a day.

Clinical data of age, sex, improve-ment of symptoms, and complications of the surgery (such as infection, ectropion and recurrence) were recorded for analysis. Lid margin and eyelash position were assessed in primary, up gaze, down gaze and medial and lateral ranges of motion for both groups.

The patients were evaluated by following up weekly for one month and thereafter at two, three, and 6 months postoperatively. The success being defined as no postoperative symptoms (no trichiasis with normal lid margin position). A recurrence was defined as a return of symptoms within 6 months of follow-up.

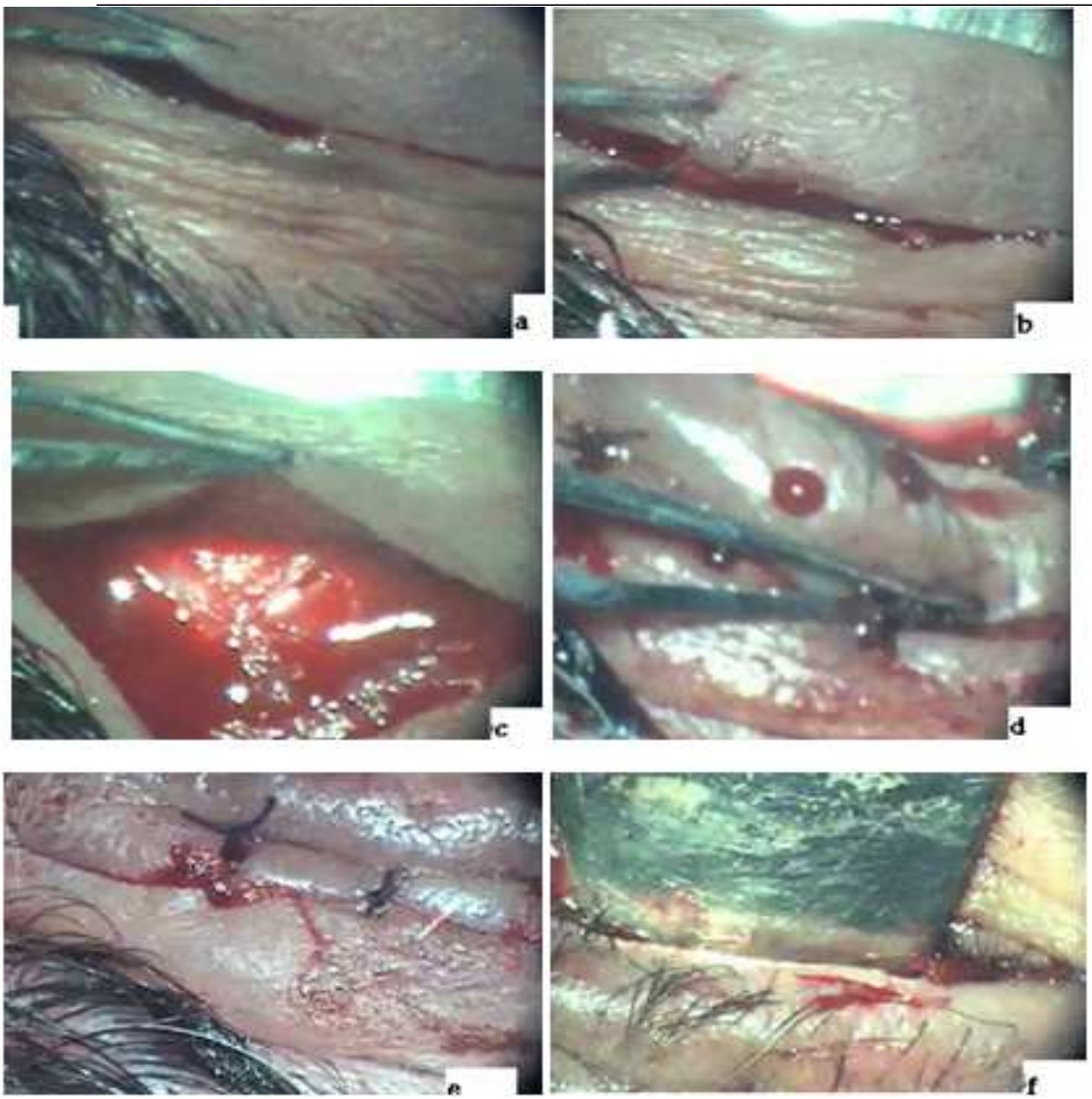

Figure 1: a- Incision is made b- Undermining of the skin c- Dissection of the skin and muscle from the tarsus d- Excision a part from the skin e- Suturing the skin f- Wedge resection.

RESULTS

44 upper eyelids with mild entropion and trichiasis were divided into two groups: Group (A) was operated using anterior lamellar repositioning with wedge resection, while Group (B) was operated by anterior lamellar reposition only. There were 18 males and 14 females with age ranging from 47 to 68 years. The causes of entropion and trichiasis were as follows: 21 cases (32 eyelids) due to trachoma; 11 cases (12 eyelids) with trichiasis secondary to dry eye. (Table 1)

Postoperative evaluation revealed that there was irregular lid margin in only one lid (4.7%) of group (A), while no lid margin irregularity was found in group (B). One lid (4.7%) in group (A) and 2 lids (8.7%) in group (B) showed overcorrection, while two lids (9.5%) in group (A) and 1 lid (4.3%) in group (B) showed under-correction. Persist-ent trichiasis was found in only 1 case in both groups. Under-correction occurred in 2 cases (9.5%) in group (A) with only one of them showed persistent trichiasis. Granuloma was found in 2 (9.5%) cases of group (A) and in 1 case (4.3) of group (B) which were treated successfully with topical steroids. Infection was encountered

only in 1 case in both groups. Two cases in group (A) and 1 case in group (B) showed intra-operative bleeding which was controlled intra-operatively by compression and diathermy with no subsequent lid haematoma. (Table 2)

Success was defined as absence of symptoms postoperatively (due to persistent trichiasis or lid margin abnormalities). In group (A), three eyelids (14.3%) showed no success (failure), one due to persistent trichiasis, one due to overcorrection and one case showed persistent lacrimation and irritation due to irregular lid margin with success rate of 85.7 % (18 eyelids). In group (B), only two cases (8.7%) showed failure postoperatively, one due to persistent trichiasis and the other due to overcorrection with success rate of 91.3 % (21 eyelids). (Table 3)

The recurrence rate at 6 months after the procedure was 2 eyelids (9.5%) in group (A), both of them showed recurrence of trichiasis & entropion. In group (B), only one case (4.3%) showed recurrence of entropion and trichiasis. (Table 3).

Table 1: Pre-operative Data

	Group (A)		Group (B)	
Preoperative Data	**No.**	**%**	**No.**	**%**
Number of eyelids	21	47.7%	23	52.3%
Mean age	56.5 year	-	58 years	-
Entropion Due to Trachoma	17 lids	80.9%	15 lids	65.2%
Entropion Due to Dry eye	4 lids	19.1%	8 lids	34.8%

Table (2): Complications encountered in both groups.

	Group (A)		Group (B)	
Complications	**No.**	**%**	**No.**	**%**
Irregular lid margin	1	4.7 %	-	-
Over-correction	1	4.7 %	2	8.6 %
Under-correction	2	9.5 %	1	4.3 %
Persistent trichiasis	1	4.7 %	1	4.3 %
Granuloma	2	9.5 %	1	4.3 %
Infection	1	4.7 %	1	4.3 %
Intra-operative bleeding	2	9.5 %	1	4.3 %

Table (3): Success and Recurrence rates

	Group (A)		Group (B)		P value
	No.	%	No.	%	
Success rate	18	85.7 %	21	91.3%	0.63
Recurrence	2	9.5 %	1	4.3 %	0.7

(P value = 0.56)

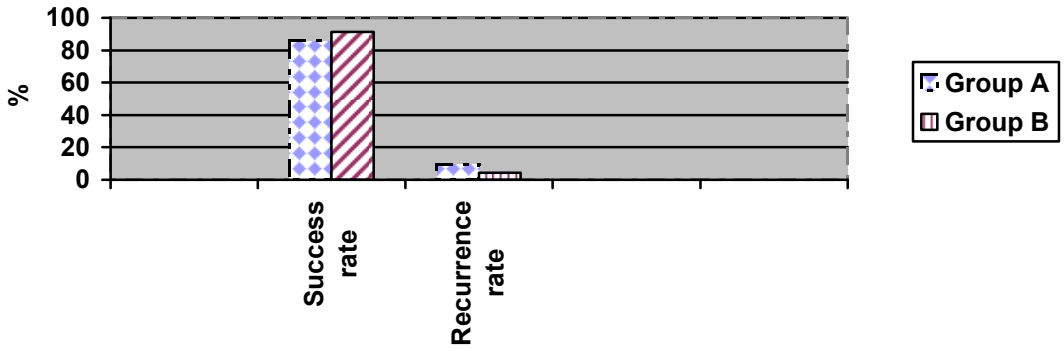

Figure (2): Success and Recurrence Rate

DISCUSSION

Upper lid entropion can be treated by different techniques such as tarsal rotation, tarsal wedge resection and anterior lamellar reposition. Trichiasis can be treated by epilation, cryotherapy or by wedge resection [(11-14)].

In this study, three eyelids (14.3%) showed no success (failure), one due to persistent trichiasis, one due to overcorrection and the third case showed persistent lacrimation and irritation due to irregular lid margin with success rate of 85.7 % (18 eyelids) in group (A), while in group (B), only two cases showed failure postoperatively, one due to persistent trichiasis and the other due to overcorrection with success rate of 91.3 % (19 eyelids). Nearly the same results obtained by Rhatigan et al [(12)] in their study. They operated 28 cases of upper eyelid entropion with anterior lamellar reposition. They defined success as complete resolution of symptoms and reported success rate of 85%.

In group (A) which was operated by anterior lamellar reposition and wedge resection showed no relive of symptoms in 15 % of cases after six months of follow-up. Dhaliwal et al [(15)] treated upper lid trachomatous entropion with anterior lamellar reposition with wedge resection in their study and reported no relieve of symptoms (no success) in 3.3% of their cases at 6 months.

The recurrence rate at 6 months after the procedure was observed in 2 eyelids (9.5%) in group (A), and one eyelid (4.3%)

in group (B) in our study. These results are comparable with the results obtained by Dhaliwal et al[15] who reported a recurrence rate of 3.3% (one eye) after two months. Bi et al [16] treated upper lid trichiasis by anterior lamellar reposition with complete lid split and reported recurrence rate of 2.8% after 6 months.

The rate recurrence rate is higher in our study than that reported in other studies due to progressive trachomat-ous fibrosis in our patients. The higher recurrence in the group of wedge resection explained by that there was not complete removal of lash roots during wedge resection.

Certain complications were encount-ered such as irregular lid margin due to notching of the margin in group (A) (4.7% of cases), while no irregularity occurred in group (B). Under-correction occurred in 9.5% of cases in group (A) and 4.3% of cases in group (B). This is comparable with the results of Dhaliwal et al [15] as they reported irregular contour in 3.3% of their cases and under-correction in 20% of cases.

Granuloma was encountered in two cases (9.5%) in group (A) (one at the site of the wedge and the other at the site of sutures while it found in one case (4.3%) in group (B) which were treated successfully with topical steroids. Also, Dhaliwal et al [15] reported granuloma in 10% of their cases.

This study concluded that anterior lamellar reposition is a useful technique for treatment of mild upper lid entropion associated with trichiasis and is comparable with anterior lamellar reposition and wedge resection.

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مقارنة بين إعادة الطبقة الأمامية مع الاستئصال المثلثى و إعادة الطبقة الأمامية فى علاج التواء الجفن البسيط المصاحب لوجود شعيرات ملتوية

الهدف من البحث المقارنة بين كفاءة إعادة الطبقة الأمامية مع الاستئصال المثلثى و إعادة الطبقة الأمامية فى علاج الالتواء الداخلى البسيط للجفن العلوى المصاحب لوجود شعيرات ملتوية.

هده الدراسة اشتملت على 44 جفنا (32 مريضا) يعانون من التواء بسيط بالجفن العلوى المصاحب لوجود شعيرات ملتوية. و قد تم تقسيم المرضى الى مجموعتين. مجموعة (أ) وقد اشتملت على 21 جفنا و مجموعة (ب) اشتملت على 23 جفنا.

و قد تم مقارنة بين المجموعتين من حيث تحسن الأعراض و نسبة النجاح و الارتجاع فى كل مجموعة و كذلك مضاعفات العملية. و قد خلصت النتائج إلى ان نتائج الطريقتين متقاربة فى المضاعفات ونسب النجاح و الارتجاع. و نستنتج من هده الدراسة أن عملية إعادة الطبقة الأمامية ناجحة فى علاج حالات التواء البسيط للجفن العلوى المصاحب لوجود شعيرات ملتوية