Recurrence Rates of Involutional Entropion following Everting Sutures

Introduction: Involutional entropion is one of the most common eyelid malposition conditions affecting 2.1% of the elderly population[1] and represents a significant source of workload for oculoplastic surgeons. Inversion of the tarsal plate leads to the eyelashes abrading the ocular surface causing irritation to the conjunctiva and corneal abrasions. Patients report foreign body sensation, injection and tearing. The current standard treatment of vertical lid shortening (using everting sutures) with or without horizontal lid shortening (using a lateral tarsal strip) is considered the only long-term treatment [2].

Aim: To assess rates of recurrence of involutional entropion following everting sutures (without horizontal lid shortening) compared to the recurrence rates reported in the most current literature.

Standard: The current literature reports that the recurrence rate for involutional entropion following everting sutures is 7% at 6 months [3], 15% at 31 months [3] and 21% between 36-60 months [4].

Target: Recurrence rates less than or equal to the current literature (detailed above) [3, 4].

Methodology:

- Patient letters of 51 patients totaling 56 eyelids (5 bilateral entropion treated) were identified through a retrospective selection process using theatre logbooks and patient data from letters (reviewed using electronic patient record system) producing data between the dates of June 2015 to January 2017.
- Patients were asked to represent if recurrence of the entropion was noted.
- Recurrence rate at 0-6, 7-12 and 13-24-months was determined.

Results 1:

- Mean age of this study's patient cohort was 78.5 (SD 8.1 with a range of 61 to 95 years old).
- Four patients deceased within the follow-up period and could not be evaluated.
- Thirty-three of the procedures were performed by qualified ophthalmic nurses with the rest being performed by ophthalmology registrars/consultants.

The results are summarised in the table below:

Recurrence time interval	Rate (number)	Cumulative Rate (number)
0-6 months	7.14% (4/56)	7.14% (4/56)
7-12 months	1.79% (1/56)	8.93% (5/56)
13-24 months	1.79% (1/56)	10.71% (6/56)
Overall Recurrence Rate	-	10.71% (6/56)

- Average time in months until recurrence = **8.67 months (52/6)**

Action Plan:

- Wright et al. (1999) and Mohammed et al. (2017) identify a clear need for longer term follow-up data to be available in order to more accurately assess the recurrence rate of involutional entropion treated with everting sutures alone.
- It was, therefore, decided to extend the audit to establish results over a longer period of time.
- The same methodology and analysis was employed including data dated until 2nd June 2020.

Results 2:

- In the extended time period, eight new cases of recurrence were identified.
- Eight patients deceased since last follow-up and therefore no data is recorded.
- New time intervals were established to report the data; in addition to 0-6, 7-12 and 13-24-month time intervals, 25-30, 31-36 and greater than 36-months would now be included.

The results are summarised in the table below:

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13-24 months	1.79% (1/56)	10.71% (6/56)
25-30 months	1.79% (1/56)	12.50% (7/56)
31-36 months	0% (0/56)	12.50% (7/56)
>36 months	7.14% (4/56)	19.64% (11/56)
Overall Recurrence Rate	-	19.64% (10/56)

- Average time in months until recurrence **= 21.36 months (235/11)**

Conclusion:

In terms of the outlined target, the recurrence rates of this study are in line with that of the current literature. The large variation of mean time to recurrence highlights the need for longer term follow-up (up to 60-months). Considering the high average age of the cohort, the disadvantage of higher rates of long-term recurrence versus other surgical procedures (namely horizontal lid shortening in addition to everting sutures) must be balanced against the advantages of everting sutures alone being a quick and effective solution in terms of good clinical outcome for the patient, cost-effectivity for the service provider and a demonstrable method for relieving workload for ophthalmology surgeons.

References:

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