

Minimally-invasive targeted oral mucous membrane grafting and selective electroepilation for management of eyelid margin keratinization and trichiasis in Stevens-Johnson syndrome

J. CP Roos¹, S.K Freitag²

¹*Adnexal Unit, Norfolk & Norwich Hospital, UK,* ²*Ophthalmic Plastic Surgery Service, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA, USA*

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Purpose: Management of eyelid margin keratinization and trichiasis in patients with Stevens-Johnson syndrome (SJS) using standard techniques, such as anterior lamellar recession or tarsal fracture, is technically challenging and often disfiguring. We retrospectively reviewed the efficacy of a minimally-invasive surgical technique of targeted mucous membrane grafting which spares the eyelashes and minimizes eyelid margin architectural changes coupled with selective electroepilation.

Methods: A retrospective, non-comparative review was performed on patients with SJS who underwent targeted oral mucous membrane grafting and electroepilation for lid margin keratinization with mild trichiasis. Patients with cicatricial entropion, symblepharon and extensive trichiasis were excluded. The procedure was performed on 6 eyelids (3 upper and 3 lower lids) in 2 female patients (aged 21 and 34 years) with SJS who suffered from significant ocular surface discomfort necessitating the use of specialty scleral contact lenses. The surgical technique commenced with selective electroepilation of trichiatic lashes using an Ellman radiofrequency unit and surgical microscope. Subsequently, the keratinized area of the lid margin and palpebral conjunctiva was delineated with a surgical marking pen, incised with a #11 blade, and excised to a depth of tarsus with a sharp Westcott scissors. Care was taken to spare properly oriented lashes. The geographic-shaped eyelid defect was measured and an oral mucous membrane graft of slightly larger size was harvested from the inferior labial surface. The graft was secured to the eyelid using 6-0 plain gut suture with buried knots. Outcome measures included recurrence of trichiasis, improvement in keratopathy, and subjective perception of post-operative comfort and cosmesis.

Results: Five of 6 (83%) eyelids had successful placement of mucous membrane grafts without complication. Mild trichiasis recurred focally in 2 of these 5 (40%) eyelids and was successfully treated with repeat electroepilation. One of 6 eyelids initially had an undesired outcome because of inadequate mucous membrane graft. When a large graft was split between two eyelid recipient beds, a buttonhole in the medial aspect of one upper lid graft resulted in an irregular palpebral conjunctival surface and recurrent trichiasis causing ocular irritation. This was resolved with additional focal grafting. Both patients (4 eyes) reported near complete resolution of ocular discomfort after surgery, making the 12 hours daily without scleral lens use much more tolerable. Keratopathy improved from mild pre-operatively to absent post-operatively in all 4 eyes (100%). Both young women were highly pleased with their eyelid cosmesis after surgery, which was important for self-esteem after the devastation of SJS.

Conclusions: Targeted oral mucous membrane grafting along with electroepilation is very effective in managing eyelid keratinization and mild trichiasis in patients with SJS. This technically simple, minimally-invasive procedure can result in significant improvement in ocular discomfort and keratopathy as well as excellent cosmesis.