A Novel Technique for Upper Eyelid Retraction Repair

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Aim: Upper eyelid retraction is a serious complication of thyroid eye disease, causing exposure keratopathy and loss of vision. Established treatments include botulinum toxin injection, blepharotomy, levator hinge procedure, levator muscle lengthening with the use of donor scleral spacers, and Müllerectomy. We present a novel method of surgical repair of upper eyelid retraction using an autologous orbicularis oculi graft as a spacer.

Materials & Methods: 3 patients with bilateral symptomatic eyelid retraction were assessed by the oculoplastics service at the Royal Victoria Eye and Ear Hospital, Dublin. Presence and severity of ocular symptoms and signs, including eyelid position and function, were documented pre-operatively and post-operatively. Both eyes were treated on the same day under local anaesthesia. Once informed consent was obtained, eyelids were measured, marked and anaesthetised. An anterior approach was taken, dissecting through orbicularis oculi until levator palpebrae superioris was identified and then detached from the tarsal plate. A section of orbicularis from the same eye was measured, resected, and sutured in place as a spacer between levator and the tarsal plate. Eyelid position was measured and adjusted intra-operatively. Orbicularis and skin incisions were closed directly using 6/0 vicryl sutures.

Results: In each of the 3 cases, eyelid position and function were objectively improved. All 3 patients reported subjective improvement in function and appearance. Eyelid closure and orbicularis function were uncompromised.

Conclusion: The use of an autologous orbicularis oculi graft as a spacer in eyelid retraction repair is effective, predictable and well tolerated. This technique maintains levator function and avoids the use of donor scleral spacers.