

INVOLUTIONAL ENTROPION: A COMMON AND VISION THREATENING CONDITION AMONG THE ELDERLY.

Eyelid margin malpositions account for a large proportion of daycare Oculoplastic surgery cases. Apart from ptosis and lid retraction, eyelid margin malpositions include entropion, ectropion and epiblepharon. Involutional entropion accounts for a large proportion of such cases among the elderly. Visual impairment may occur due to keratopathy which is caused by constant rubbing of the eye lashes over the cornea.

Involutional entropion is more common in Orientals compared to Caucasians. This is due to the anatomical predisposing factors. In the upper eyelid, the levator fuses with the orbital septum below the superior tarsal border, resulting in a more inferior extension of the preaponeurotic fat and poor attachment of the levator aponeurosis fibers to the skin and subcutaneous tissue. The Oriental eyelid also has a shorter tarsal height of 6.5-8.5mm compared to 10mm for Occidental eyelid. The above anatomical factors favour in-turning of the Oriental upper eyelid margin and hence a higher prevalence of upper eyelid epiblepharon and entropion in patients of East Asian descent. The illustrations below (Figures 1a & 1b) depict the differences in anatomy, between Caucasian and East Asian eyelids respectively.

Similarly, in the Oriental lower eyelid, the or-

bital septum is attached higher on to the tarsus or inferior retractors as compared to the Occidental eyelid. There is an apparent lack of fusion of the capsulopalpebral fascia and orbital septum at the lower border of the tarsal plate in 7 out of 10 Oriental eyelids. These anatomical features allow the anterosuperior protrusion of the orbital fat and piling up of the orbicularis muscle around the lower margin of the tarsal plate. The anterosuperior protrusion of the orbital fat is associated with absence or scarcity of retractor fibres extending into the lower eyelid skin. As we age, there is also an increase in laxity of the eyelids and further weakening of the already deficient lower eyelid retractors. All these anatomical features contribute to forces which favour the inturning of the lower eyelid and development of lower eyelid epiblepharon and entropion amongst East Asians.

Keeping in mind the above anatomical features, upper eyelid involutional entropion in Oriental patients is treated with standard Asian blepharoplasty and lid crease formation. Lower eyelid entropion is treated with combined procedure of retractor reinsertion and lower eyelid tightening to correct the horizontal lid laxity (Fig 2a and 2b). The above surgical strategies have high long-term success rates. Involutional entropion of the lower eyelid is more common than upper eyelid.

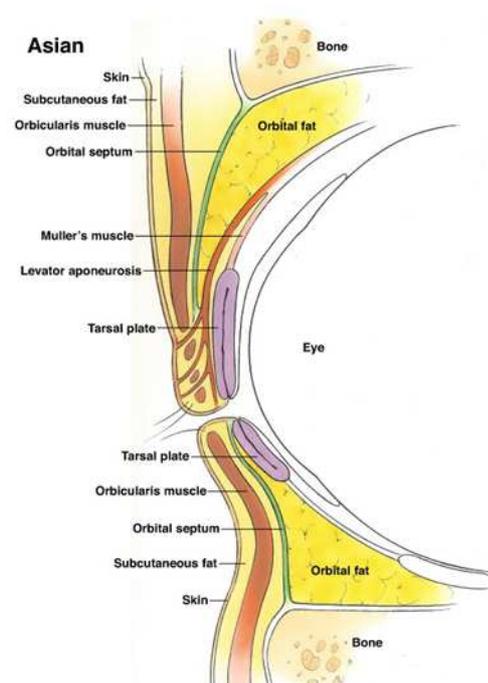
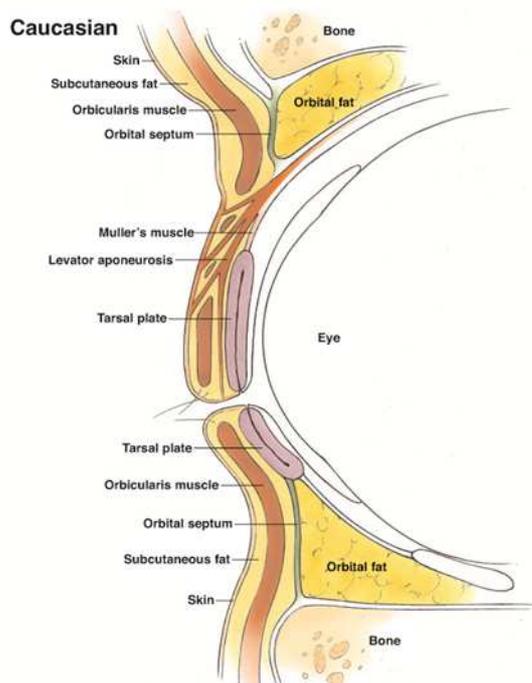


Fig 1a. Caucasian eyelid Anatomy

Fig 1b. East Asian Eyelid

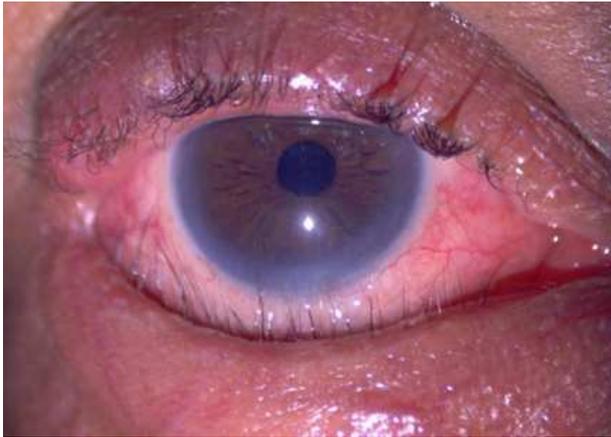


Fig 2a. Lower Lid entropion

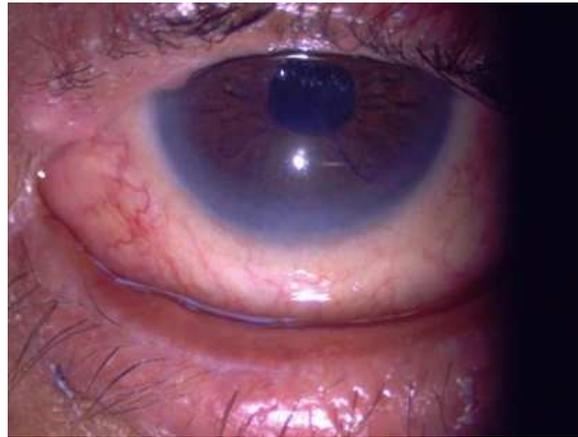


Fig 2b. Following Surgical correction

Early surgery needs to be performed on patients who have significant keratopathy or who are undergoing cataract surgery in the near future. The entropion must always be corrected before cataract surgery to avoid sight threatening complication of endophthalmitis. In patients with significant keratopathy, (Fig. 3a) early surgery is warranted to avoid corneal ulceration (Fig. 3b) and corneal perforation.

In summary, involutional entropion is a common eyelid margin malposition among patients of South East Asian descent due to their unique eyelid anatomy. Early recognition and prompt surgical treatment is needed to prevent vision threatening complications such as corneal ulcers and perforation. The surgeon should be well versed with the peculiar anatomical features and pathogenesis of involutional entropion in Oriental patients.

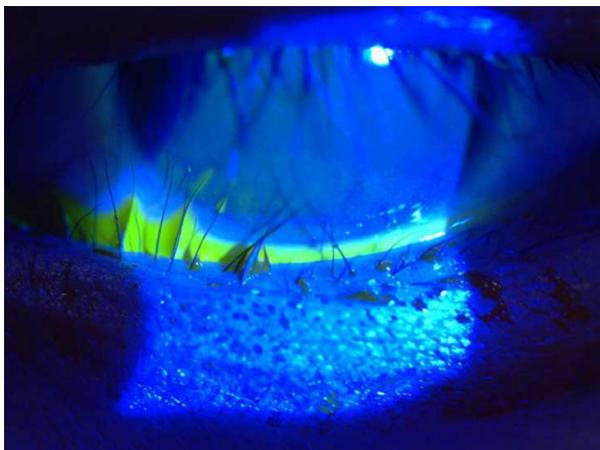


Fig. 3a. Entropion with Inferior Corneal epithelial erosion due to keratopathy



Fig 3b. Corneal Ulceration due to entropion



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