

Eyelid malpositions

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Eyelid malpositions can cause cosmetic problems and threaten vision. They can also point to a sinister underlying process.

Eyelid malpositions, such as upper lid ptosis or lower lid ectropion, are very common, especially in the elderly (see Table). They present an obvious cosmetic problem and have effects on the health of the ocular surface and may interfere with the visual axis. However, it is crucial to look beyond the eyelid to avoid missing more serious underlying causes.

The following two cases, seen by the author in the recent past, illustrate broader implications of common eyelid malpositions. It is recommended that the reader considers the italicised questions between paragraphs.

Case 1

A previously well 74-year-old Caucasian man presented complaining of a watery left eye (Figure 1). He wondered if his tear duct was blocked.

- *Is a blocked tear duct the most common cause of wateriness in an adult eye?*
- *Can the eyelid malposition in Figure 1 cause watering?*

A general eye examination revealed a left lower lid ectropion. The lower lacrimal punctum was everted, rendering it useless for tear drainage, so the lid malposition was an adequate explanation for the patient's eye wateriness. This was supported by the finding that his tear duct was patent to syringing with saline. In adults, eye wateriness is frequently caused by factors other than blockage of the tear drainage system. (The most

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common causes include reflex hypersecretion due to ocular surface irritation or tear film insufficiency, and poor pumping of tears into the drainage system brought about by eyelid laxity or malposition.) The rest of the eye examination was unremarkable.

During the consultation it was noticed that the patient's blink was asymmetrical. The left eye did not close as quickly or as completely as the right one. Formal testing of eye closure followed. The gap between upper and lower lids on gentle eye closure was 1 mm on the left and 0 mm on the right. This represented 1 mm of left lagophthalmos. Forced eye closure was complete on both sides but able to be overcome with digital force more easily on the left.

- *What must be tested when incomplete eye closure is found?*

Testing of other facial muscles showed very mild weakness on the left side. Further examination of cranial nerve function showed poorly defined numbness over the left cheek. Corneal sensation was present but reduced.

Inspection and palpation of the regional lymph nodes revealed an ovoid firm mass just inferior to the earlobe. The overlying skin was scaly and rough with surrounding hyperaemia.

- *What is the likely diagnosis and what are the principles of further management?*

The working diagnosis was of a malignant process involving the facial nerve and the ophthalmic division of the trigeminal nerve. This was quite possibly a squamous cell carcinoma (SCC) of the skin with perineural spread beyond the

Table. Common eyelid malpositions

Upper eyelid

- Ptosis
- Retraction
- Entropion

Lower eyelid

- Ectropion
- Entropion
- Retraction

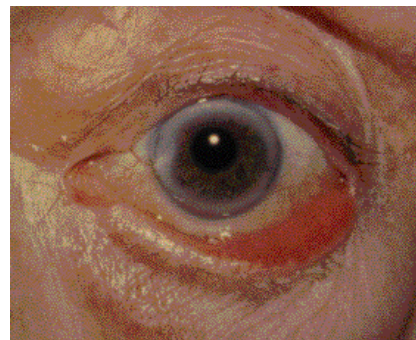


Figure 1. The unilateral ectropion in Case 1.

immediate area affected by the skin. The skin changes were highly suggestive of SCC and this type of skin tumour is known to exhibit perineural spread. Parotid and lymph node malignancies are among other causes of masses in this region.

Apart from making a histological diagnosis, it was important to ensure adequate protection of the ocular surface, especially because reduced corneal sensation renders the cornea much more susceptible to nonhealing ulceration. Treatment with regular ocular lubrication was immediately commenced with artificial tears, four times a day, and ointment at night.

A biopsy of the preauricular mass confirmed a SCC with perineural infiltration. The patient was managed thereafter by a multidisciplinary team, and he underwent excision of the lesion. Unfortunately, the prognosis for SCC with perineural spread in the head and neck area is poor.



Figure 2. The unilateral ptosis in Case 2.

Case 2

A previously well 35-year-old man presented with a left-sided upper lid ptosis (Figure 2). It was of gradual onset, occurring over a number of weeks.

Examination showed upper lid ptosis and reduced upgaze in the left eye, which resulted in diplopia beyond 35 degrees of upgaze. The remainder of a general and ocular examination was normal.

- *What aspects of the ocular examination are of particular relevance to assessing upper eyelid ptosis?*

Attention was paid to evaluation of the patient's pupils and eye movements because these might indicate an underlying neurological defect. In a patient with Horner's syndrome, the pupil on the affected side is smaller. This is best demonstrated by observing that the difference in pupil size is more accentuated in a dimly lit room than in a brightly lit room. In a patient with an oculomotor nerve palsy, the pupil reaction to light and accommodation is usually (although not always) reduced, possibly resulting in a noticeably larger pupil on the affected side. An oculomotor nerve palsy also reduces the action of the superior and medial recti and the inferior oblique, giving rise to varying deficits in adduction and elevation of the eye.

Palpation of the eyelid and surrounding tissues is critical because masses can cause a ptosis. Evidence of proptosis or enophthalmos also must be sought to detect any mass or infiltrating process that could have caused the ptosis.

In this case, there was no clinical evidence of a mass. However, there was sufficient suspicion of a local process causing a mechanical deficit in the elevation of

the eye together with the ptosis, or of a partial oculomotor nerve paresis sparing the pupil. Therefore, an MRI of the head and orbits was arranged.

The MRI showed a thickening of the left eyelid levator (levator palpebrae superioris) muscle and the adjacent superior rectus muscle. A biopsy of the thickened tissue was performed, which showed a cellular infiltrate of spindle shaped cells with immunohistochemistry consistent with a malignant melanoma. The patient had a history of a malignant melanoma, excised from his back four years previously, making this a likely metastasis.

Discussion

Eyelid malposition is commonly seen. It first presents an aesthetic problem. More importantly, it can damage the ocular surface. In ectropion or lagophthalmos the damage is caused by excessive exposure of the cornea to the air; in entropion it is caused by corneal abrasion by eyelashes. These can have effects that permanently threaten vision.

These two cases illustrate a third consideration. Eyelid malposition can be a pointer to a sinister underlying process. While, for example, a typical Horner's syndrome is recognised as one manifestation of a thoracic outlet mass lesion, and an oculomotor palsy as a manifestation of a posterior communicating/internal carotid junction aneurysm, not all underlying causes of eyelid malposition fall into such neat diagnostic clusters. Hence, it is important to look for partial cranial nerve pareses, deeper lesions interfering with the mechanics of the eyelids, and subtle skin lesions that can cause a cicatricial ectropion.

The first case demonstrates a lower eyelid problem as a potential presenting feature of facial paresis. Because incomplete eye closure in facial nerve paresis is commonly conceived as incomplete descent of the upper lid, the lower lid warning sign can be overlooked. The second case demonstrates that the

mechanical effect of a mass in the orbit can manifest as an eyelid or oculomotility problem. Both cases highlight the need to look beyond the presenting complaint to the mechanisms leading to it. Eyelid malpositions are in fact usually caused by involuntional soft tissue changes, but it is perilous to make that diagnosis without thinking through the rarer causes. MT

COMPETING INTERESTS: None.