Basal cell carcinoma presenting as an irritated eye

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It is important to remember that an irritated eye can be caused by an eyelid problem rather than intrinsic ocular disease.

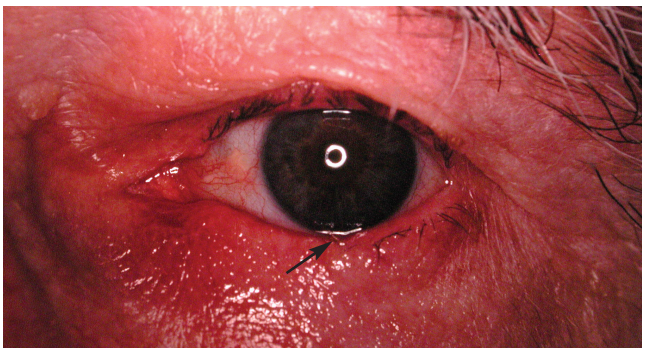

Figure. The lower eyelid margin is subtly distorted, with loss of some normal lashes and growth of an aberrant inwardly directed lash (arrow).

Case presentation

Peter was a 54-year-old Irish Australian company director who presented with a six-month history of an irritated left eye with foreign body sensation, intermittent stinging, redness and excess lacrimation. At times there was a build up of mucus secretions and discharge in the eye. During these six months he had visited several GPs and been given artificial tears and two short courses of topical antibiotics, with partial alleviation of symptoms. More recently, an optometrist had noted an aberrant eyelash growing from the lower eyelid that irritated the ocular surface. When this was epilated the patient experienced considerable relief, but his symptoms recurred after three to four weeks.

Peter's family doctor then performed a further review. An unevenness on the margin of the eyelid was noticed and, being concerned that this might be something neoplastic, she referred the patient for further evaluation.

Examination

The Figure shows the patient's eye as seen at the time of his presentation to the ophthalmologist. The mid-portion and medial lower eyelid margin had a slightly uneven contour, with an eyelash growing in towards the globe and causing the irritation and mucus build up. There was loss of normal lashes in this area, and slit lamp examination showed telangiectatic vessels here. Palpation revealed an induration along the lid margin. There was no regional lymphadenopathy.

The rest of the ocular examination was normal. In particular, there was no disturbance of sensory nerve function in the area, and no paresis of eye or eyelid movement, clinically excluding perineural spread of a potentially malignant lesion.

Comment

The examination findings are consistent with a basal cell carcinoma (BCC). Telangiectasia, distortion of the eyelid margin with lash misdirection, loss of lashes, and induration are all cardinal signs of an eyelid BCC, where the classic rodent ulcer with rolled pearly edges is not always manifest. Symptoms of irritation can therefore precede any macroscopically obvious lesion. The slow growth of this BCC contributed to the difficulty in detecting the suspicious features, which may well not have been all apparent until the more recent reviews. A past history of other solar induced skin lesions, Celtic ancestry, immunosuppression (including that related to organ transplantation) are risk factors that raise one's level of suspicion for BCCs.

Other common eyelid lesions associated with irritation include chalazia, benign tumours such as seborrhoeic keratoses, viral lesions such as warts or molluscum contagiosum, and other malignancies. Mollusca typically are dome shaped with a central umbilication. Chalazia can resemble BCCs, and the underlying blepharitis that leads to them can cause some lash misdirection as well. However, chalazia do not generally exhibit induration of surrounding tissues. Any chalazion that does not resolve with treatment must be suspected of being neoplastic until proven otherwise with a biopsy – this will avoid the possibility of missing malignancies, including the rare but potentially fatal meibomian gland carcinoma, which can closely mimic a chalazion in appearance.

Squamous cell carcinoma (SCC) can present with quite subtle surface changes, such as a patch of dry scaly epithelium on the lid margin. It is important to check for any sensory or motor loss in the affected region because these lesions can invade nerve fibres.

Management

An incisional biopsy of the lesion on Peter's eyelid was performed to confirm the diagnosis, particularly as the area to be excised was predicted to be greater than one-third of the width of the eyelid and the repair would probably require

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more than direct closure by simple sutures. The results of the biopsy did show a nodular BCC.

The lesion was excised, with frozen section confirmation of clear margins. Reconstruction involved a pedicled tarso-conjunctival flap from the upper lid to fill the defect in the tarsal plate and a full thickness skin graft to fill the anterior layer. This healed well, and the pedicle was divided two weeks later. These were day procedures performed using local anaesthesia and intravenous sedation.

Comment

To minimise the risk of recurrence, it is best to confirm that the excision margins are clear at the time of surgery. This can be achieved with Mohs' micrographic technique or by frozen section histology.

Mohs' micrographic technique involves taking successive layers of the bed of the excised area and histological examination to ensure that all tumour is removed. It is performed by dermatologists with special training, and may be limited in availability. Ordinary frozen section, on the other hand, is also reliable for detecting BCC in a tissue specimen, but paraffin sections are still superior. Hence, if possible, the main specimen is processed in formalin, with extra margins taken to confirm clearance by frozen section. Other tumours, such as SCCs and melanomas, are not so accurately mapped by frozen section.

Cryotherapy, radiotherapy and topical chemotherapy are also used to treat BCCs, but I do not favour these options in the eyelid for two reasons. First, they do not allow for a histological diagnosis and confirmation of tumour clearance. Second, they have a potential for greater collateral tissue trauma, and cicatricial changes that interfere with the eyelid position and ocular surface protection.

Key points

- An irritated eye can be due to eyelid problems rather than intrinsic ocular disease.
- A high degree of suspicion is appropriate when managing an eyelid lesion. A past history of other solar induced skin lesions, Celtic ancestry, immunosuppression (including that related to organ transplantation) are risk factors for BCCs.
- Early diagnosis combined with close co-operation between the eyelid surgeon and the pathologist or dermatologist minimises tissue loss, leading to a better cosmetic and functional prognosis and maximising the chances of a long term cure. MT

DECLARATION OF INTEREST: None.