

Sir,

Eyelid skin atrophy associated with chronic usage of ophthalmic steroid ointment, and its successful treatment with the Versapulse laser

Long-term topical corticosteroids are used with caution in the eye for fear of their potential side-effects such as raised intraocular pressure and cataract formation. Skin atrophy is a well-documented side-effect of the long-term use of dermatological preparations of corticosteroids, related to the thickness of the skin to which they are applied, the potency of the steroid and the duration of its use. We describe a patient who sustained dermatological eyelid change following the use of an ophthalmic steroid preparation, and who was then successfully treated by novel means.

Case report

A 55-year-old woman presented to the eye clinic complaining of a 5 year history of recurrent 'bruised eyes', often upon waking. She stated that prominent blood vessels had developed within her lower eyelid skin and that extensive bruising of the lids frequently occurred with minimal, if any, physical contact. There was no history of trauma or atopy. In response to direct questioning, she disclosed that for more than 30 years she had been applying Betnesol (Evans) ophthalmic ointment, obtained on repeat prescription from her general practitioner, onto her eyelids as treatment for blepharitis.

On examination, the lower eyelid skin was atrophic with underlying prominent, dilated blood vessels and visible orbital fat. There was a mild degree of anterior blepharitis but no other signs of skin or ocular disease (Fig. 1). A diagnosis of corticosteroid-related skin atrophy was made. In addition to cessation of ointment

use, treatment options included direct cauterisation and therefore closure of the vessels, or excision of the affected skin together with its underlying vessels. It was felt, however, that neither would result in optimum cosmesis: the former might scar the overlying skin, whilst without the addition of a skin graft, with the latter there would be a significant risk of ectropion. It was considered, however, that the use of a 'vascular' laser to produce light of a wavelength that would be highly absorbed by haemoglobin might result in vessel closure with minimum risk of complications.

Treatment was therefore subsequently undertaken using the Coherent Versapulse cutaneous laser, producing light at 532 nm. Using a 'chilled tip' on the laser probe to cool the skin in order to minimise epidermal damage, the lower eyelid skin was treated at a fluence of 155/cm² and pulse width of 20 ms. As expected there was a considerable degree of post-laser inflammation, but this settled within 3 weeks of treatment. On review 2 months after treatment, the blood vessels in question within the lower eyelids were no longer visible and the symptoms completely resolved. In addition, somewhat unexpectedly, there was also a significant improvement in the general appearance of the eyelid skin, with a return to near-normal texture and colour (Fig. 2).

Comment

Eyelid skin atrophy induced by topical ophthalmic corticosteroids has only been reported on one previous occasion.¹

Epidermal side-effects of topical steroid use include thinning of the epidermis and cessation of proliferation in the basal layer. Dermal side-effects include the inhibition of elastin and type I and III collagens, by a reduction in collagen mRNA synthesis which decreases directly the strength of the underlying dermis.² Blood vessels also become increasingly fragile due to the decreased support by collagen and glycosaminoglycans.³ Long-term vasodilatation can occur, hence the development of telangiectases. Rebound inflammation may also occur with acute cessation of topical steroid use.



Fig. 1. The lower eyelid on presentation, showing underlying prominent, dilated blood vessels and visible orbital fat.

Fig. 2. The lower eyelid after treatment with the Versapulse laser, showing a near-normal appearance.

The Versapulse laser (Coherent Medical Group) is a multiple-wavelength cutaneous solid-state laser system which produces light in Q-switched alexandrite or neodymium:YAG (Nd:YAG) mode for the removal of pigmented lesions and tattoo colours, and in variable pulse width frequency-doubled Nd:YAG mode for the treatment of a variety of superficial vascular conditions such as port-wine stains and facial telangiectases. A chilled tip cools the skin during treatment, reducing epidermal thermal damage, whilst the variable pulse width allows specific targeting of different-diameter blood vessels.⁴ At 532 nm, the wavelength produced in frequency-doubled Nd:YAG laser mode, there is reduced scatter and melanin absorption of the laser energy within, and therefore increased transmission through, the epidermis with subsequently increased energy uptake by the target vessel wall.

Steroid creams and ointments are used on the face with great care for fear of their side-effects; their long-term use and the more potent preparations are generally avoided whenever possible. Although Betnesol ointment is formulated for ocular use it does in fact contain 0.1% betamethasone, which is classified as a potent steroid, and the same caution should therefore be taken regarding its long-term use as with other dermatological steroid preparations.

References

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Sir,

An unusual case of ocular self-injury

Self-inflicted ocular injury is uncommon.¹ It ranges from mild forms such as chemically or mechanically induced conjunctivitis seen in malingering or mental retardation to the most extreme form of self-enucleation. In adults, more severe attempts at ocular self-damage are usually associated with acute psychotic states.¹ An unusual case of self-inflicted eye injury is reported involving self-introduction of a foreign body into the orbit following use of recreational drugs.



Fig. 1. The left eye on presentation.

Case report

A 25-year-old white man presented to the casualty department following an episode of recreational drug use, which included marijuana, amphetamines and cocaine. He relayed a history of pushing a ring into his left eye earlier that day and insisted that the ring was still present within the eye. He apparently had to do this because he felt he could not breathe, and only by pushing the ring into his eye could he 'get oxygen'.

On examination the patient was in an agitated state. It was not possible to visualise the anterior segment because of tense eyelids and severe conjunctival swelling

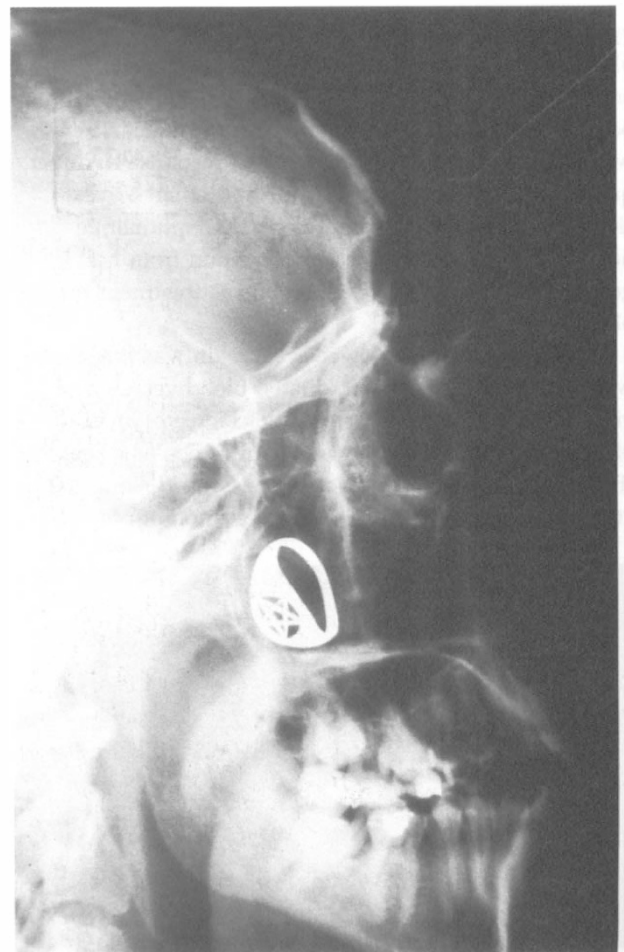


Fig. 2. Skull radiograph showing a signet ring in the left maxillary sinus.