Figure 2 (A) Slit lamp photomicrograph demonstrating fine, diffuse, clear epithelial microcysts in the left cornea 4 weeks after instigating topical interferon α -2b treatment. (B) Scattered punctate epithelial staining in the slit lamp beam, overlying, but not necessarily corresponding to, the epithelial microcysts.

distributed, clear corneal epithelial microcysts were noted, prompting discontinuation of the topical interferon (figs 2A,B). Following an uncomplicated cataract extraction, the corrected visual acuity improved to 20/30, limited by central PEK and persistent epithelial microcysts. At 1 year after treatment with topical IFN α -2b, the corneal epithelial microcysts were still present, as were the limbal papilliform vessels, although the patient declined additional therapy.

Comment

Interferons are a group of proteins that bind to surface receptors of target cells, triggering a cascade of intracellular antiviral and antitumour activities.⁷⁻¹⁰ Previous reports have shown topical IFN α -2b, with or without subconjunctival IFN α -2b, to be very effective in the treatment of primary and recurrent CIN.^{5-12, 16-17} To the best of our knowledge, none of the 40 cases reported have documented associated corneal epithelial toxicity,^{5-12, 16-17} although after 2 weeks of treatment, four times a day, one patient developed mild PEK, which resolved after discontinuation of the topical interferon.¹⁶ A transient follicular conjunctivitis has also been reported in five patients,⁷⁻⁸ presumed by one author reporting four of these five cases to be related to the vehicle used in the topical IFN α -2b preparation,⁷ as no evidence of corneal or conjunctival epithelial toxicity was demonstrated previously in an animal model.⁴ As the topical IFN α -2b drops utilised by the patient reported here were prepared using only preservative-free normal saline, we may safely conclude that the observed corneal epithelial changes were not secondary to vehicle or preservative-related toxicity.

The development of corneal epithelial microcysts in the case reported here is evidence of the ocular surface toxicity that may be seen in patients treated with topical IFN α -2b. Corneal epithelial microcystic formation, identical to that noted in the patient reported here, has been reported with the use of systemic interferon treatment,¹⁸ and is a well-recognised complication of the systemic administration of the antineoplastic agent cytarabine (Ara-C).^{19, 20} Corneal toxicity associated with high-dose systemic cytarabine is thought to be secondary to the inhibition of DNA synthesis in the rapidly dividing basal corneal epithelial cells.²⁰ Similarly, the antineoplastic actions of interferon involve immune-enhancing properties as well as inhibition of cellular proliferation.²¹ An alternative mechanism that has been proposed to explain corneal epithelial microcyst formation in association with systemic interferon treatment is increased intercellular adhesion and altered corneal epithelial cell migration via an interferon-mediated increased expression of intercellular adhesion molecule-1.¹⁸ The development of the epithelial cysts several weeks after the initiation of topical interferon treatment, whether through inhibition of DNA synthesis, alteration of epithelial cell migration or another mechanism, indicates that IFN α -2b-related corneal epithelial cell toxicity is the most likely explanation for the origin of the microcysts. Ophthalmologists should be aware of the fact that ocular surface toxicity may be associated with topical IFN α -2b treatment, and that it should be used judiciously in patients with corneal and conjunctival intraepithelial neoplasia.

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Periorbital xanthogranuloma after blepharoplasty

Periocular xanthogranuloma is a rare inflammatory condition characterised by histiocytes and Touton giant cells. It is encountered in several settings: juvenile xanthogranuloma, Erdheim-Chester disease (ECD) and necrobiotic xanthogranuloma. Recently, cases with an adult onset not associated with ECD have been described, with frequent involvement of the eyelids and orbit.¹⁻³ In this report, we describe a unique case of adult-onset periocular xanthogranuloma precipitated by blepharoplasty.

Case report

A 57-year-old woman was referred for persistent postoperative oedema/inflammation 18 months after bilateral upper and lower blepharoplasty. On the basis of a review of her medical record and a conversation with her cosmetic surgeon, there was no suggestion of disease before surgery: her periocular involutional changes were typical and no abnormalities were noted intraoperatively. Her initial postoperative course was unremarkable, with mild swelling/ecchymosis. In contrast with the ecchymosis, which resolved within 2 weeks, the oedema unremittingly progressed. No photographs were taken during the immediate postoperative period.

Examination revealed infiltration of all four eyelids, which were rubbery to palpation, bilateral blepharoptosis, palpably enlarged

Figure 1 Periorbital xanthogranuloma. (A) Clinical appearance with infiltration of all four eyelids and mild blepharoptosis with an S-shape configuration. (B) Visibly enlarged lacrimal gland. (C) Coronal T1 fat-suppressed gadolinium-enhanced orbital MRI demonstrating diffuse hyperintensity of the periorbital tissues including the lacrimal gland. Informed consent was obtained for publication of this figure.

lacrimal glands and follicular conjunctivitis (fig 1). Ophthalmological examination was otherwise unremarkable, with normal symmetric exophthalmometry measurements and full extraocular motility. Orbital MRI demonstrated bilateral diffuse periorbital infiltration with lacrimal gland involvement (fig 1C). A left anterior inferior orbitotomy was performed. All tissue planes (epidermis to orbit fat) were

involved and obscured with diffusely infiltrative, firm, bright yellow material.

H&E-stained sections displayed several large follicles surrounded by lipid-laden histiocytes and Touton giant cells infiltrating the fat, muscle and fibrous tissue (fig 2). Immunohistochemical staining confirmed the benign nature of the follicles, staining positive for CD20 and negative for κ , λ and bcl-2. A few CD3 cells were seen in the mantle zone and scattered throughout the surrounding tissue, particularly around the xanthogranulomatous cells. They stained positive for κ and λ with a ratio of 5:1. Flow cytometry suggested a κ monoclonal B cell population (ratio 10:1). PCR using three sets of primers (FR3A/VLJN, FR2A/VLJH and FR2B/VLJH) detected no heavy-chain gene rearrangements. No abnormality consistent with a lymphoproliferative disorder or ECD was detected on systemic evaluation (chest and abdominal CT, bone scan, extremity plain films and protein electrophoresis of serum and urine).

Oral prednisone (60 mg daily) achieved a partial response, with recurrence on tapering the drug. External beam radiation (2080 rad in 13 divided doses) resulted in complete clinical resolution, which persisted 1 year later.

Comment

This report is unique in that xanthogranulomatous inflammation seems to have been caused or at least precipitated by periorbital

surgery. In most reported cases, no mention is made of periocular surgery.¹⁻³ However, this is not the first case presumably related to trauma. A recent report suggested a relationship between xanthogranuloma of the ear lobes and mechanical injury due to earrings.⁴ In our patient, an entirely causal relationship seems unlikely; however, surgical insult might have stimulated/amplified subclinical disease. Admittedly, even this is unconfirmed and the exact nature of the relationship between surgical insult and xanthogranulomatous inflammation remains to be determined.

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The Finger iridectomy technique for glaucoma

Surgical iridectomy is a standard method of treatment for narrow-angle glaucoma.¹ However, the development of laser iridectomy has largely replaced the need for incisional surgery.¹ There are cases where patients are unable or unwilling to submit to laser iridectomy, when surgical manipulation of the iris is required and when the cornea is not sufficiently clear. This case demonstrates the first use of a 25-gauge aspiration cutter through a 1 mm self-sealing corneal incision to perform a surgical iridectomy for glaucoma.

Case report

An 80-year-old woman was noted to have a variably pigmented inferonasal iris tumour, lenticular pseudoexfoliation and narrow angles in her left eye. The tumour was documented to grow and cause a sector cataract (prompting her referral to The New York Eye Cancer

Figure 2 Periorbital xanthogranuloma (H&E $\times 200$). Chronic inflammatory cells and lipid-laden histiocytes infiltrating the muscle fibres and fibrous tissue as well as multiple Touton giant cells (arrows) displaying the characteristic central eosinophilic cytoplasm surrounded by multiple nuclei and peripheral foamy/vacuolated cytoplasm are seen.