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Sir,
Lacrimal sac pigmentation due to mascara

Abnormal or unusual pigmentation always raises the possibility of a melanocytic tumour. Other conditions including melanosis, foreign bodies, systemic and topical medications, and exposure to chemicals are also associated with abnormal pigmentation. We present a case of exogenous nasolacrimal sac pigmentation secondary to mascara use.

Case report

A 69-year-old woman underwent left external dacryocystorhinostomy surgery for nasolacrimal duct obstruction (NLDO). Her preoperative ocular examination was unremarkable, except for NLDO. Intraoperatively, on exposure of the nasolacrimal sac it was noted that there was abnormal pigmentation around the common canalicular entrance to the nasolacrimal sac, and a biopsy sample was sent for histology. On removal of the biopsy sample, there was no evidence of smudging or shedding of the pigment. The procedure was successfully completed. The histology (see Figures 1a and b) showed sections of fibrous tissue devoid of covering epithelium. Within the fibrous tissue was a black pigment, some of which was present within the cytoplasm of macrophages. Within the pigment there was birefringent material. These appearances are in keeping with an exogenous pigment consistent with mascara (no other exogenous pigments were used around the patient's eyes).

Comment

Mascara is a very common pigment used to darken the eyelashes. It has previously been implicated in eyelid pathologies, including blepharitis, madarosis, contact dermatitis, allergic conjunctivitis, and conjunctival pigmentation. It has even been reported to accumulate to form a mascara-laden dacryolith.^{1,2} Pigmentation of the conjunctiva and nasolacrimal sac has been reported to occur from usage of kohl eyeliner, which is a lead-based pigment used in the Middle East, Asia,

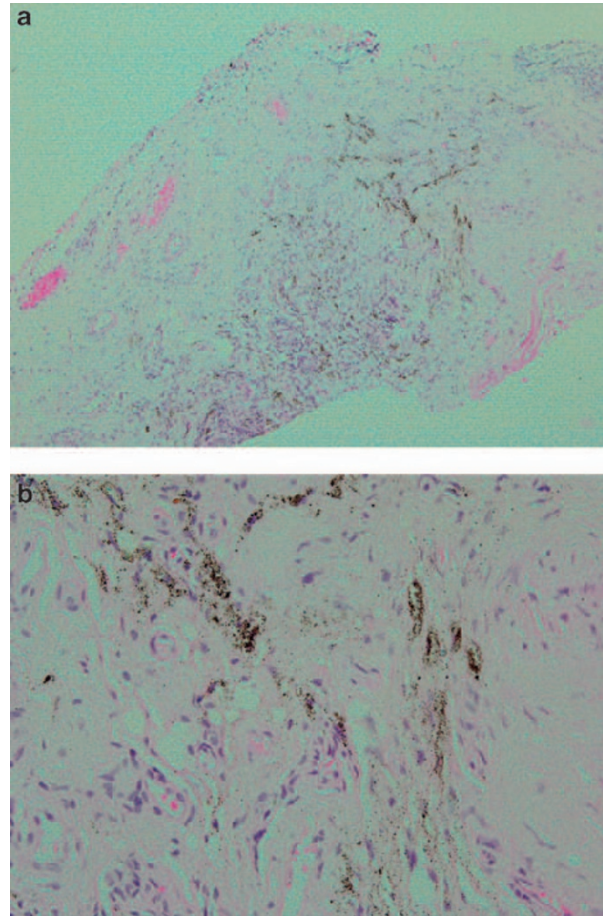


Figure 1 (a, b) Histological photographs demonstrating pigment within the stroma of the lacrimal sac (haematoxylin-eosin stain).

and Africa.³ To our knowledge, this is the first report to describe pigmentation within the substance of the nasolacrimal sac due to mascara deposits passing down the NLD.

The patient used a non-water-resistant mascara, but was unsure of the particular brand. Although the specific ingredients of mascara vary between products, all of them comprise water, wax, film-formers, and preservatives. It is difficult to know whether this phenomenon is specific to the patient's mascara. The patient wore mascara infrequently and wasn't wearing any on the day of surgery, suggesting that this is a chronic process with accumulation of mascara into the stroma over time.

Conjunctival pigmentation due to exogenous material occurs when macrophages ingest pigmented material that then settles within the substantia propria of the epithelium.¹ It may be that this same phagocytic process combined with tear film stasis allowed mascara uptake into the nasolacrimal sac substance.

Conflict of interest

The authors declare no conflict of interest.

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