A Ductal Cyst of Lacrimal Origin

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CASE PRESENTATION
A 57-year-old white woman was referred to our clinic for the evaluation of a conjunctival cyst, which she had first noticed 1 month earlier. Her only other ocular complaint was teary eyes. She specifically denied pain, decreased vision, diplopia, and ptosis. Her past ocular history was significant for strabismus requiring bilateral surgery at age 16. Past medical history included hypothyroidism, arthritis, pelvic prolapse repair, and hysterectomy.

On examination, the patient’s visual acuity was 20/20 OU. The IOP was 12 and 13 mm Hg in her right and left eyes, respectively. Her eyelids were normal. In her right eye, the cornea, anterior chamber, and iris were normal. A 10- X 7-mm cystic mass in the temporal bulbar conjunctiva was observed in her right eye (Figure 1), but its posterior limit could not be visualized. Due to her prior history of extraocular muscle surgery, a presumptive diagnosis of a conjunctival inclusion cyst in the superotemporal and inferotemporal quadrants was made. The entire cyst was excised and measured 12 X 10 X 8 mm. Intraoperatively, deeper orbital extension of the cyst was noted. The histopathology was not consistent with a conjunctival inclusion cyst but, instead, proved to be a ductal-type cyst with apocrine differentiation of possible origin in the lacrimal gland (Figure 2).

DISCUSSION
Conjunctival cysts are congenital or acquired fluid-filled epithelium-lined cavities on or within the conjunctiva. They typically appear in the bulbar conjunctiva or conjunctival fornix. Congenital conjunctival cysts are likely caused by sequestration of epithelial cells into a subepithelial space during prenatal development. Most acquired cysts are a result of inclusion of the conjunctival epithelium into the substantia propria after

Figure 1. A conjunctival cyst at the site of previous strabismus surgery (A). The posterior margin of the cyst cannot be visualized (B).
trauma, surgery, or inflammation. Occasionally, cysts in the conjunctiva may arise from ectopic or accessory lacrimal glands. These lacrimal gland cysts can have the appearance of conjunctival inclusion, dermoid, epidermoid, or parasitic cysts. The final diagnosis is based on histologic studies after biopsy.

Conjunctival epithelium inclusion cysts are lined by nonkeratinizing squamous cell epithelium with a varying number of goblet cells. Lacrimal ductal cysts are composed of an inner low cuboidal or columnar layer (sometimes with apocrine differentiation) and an outer myoepithelial layer. Although both dermoid and epidermoid cysts are lined by squamous epithelium, the former also contain adnexal structures such as hair. Parasitic cysts may show the offending parasite on histology.

The patient in this case presented with a cyst on the bulbar conjunctiva, but lacrimal ductal cysts can be found anywhere in or around the eye, with reports in the literature of such cysts also occurring in the orbit. Lacrimal ductal cysts have been previously classified based on their location as palpebral lobe cysts (simple dacryops), orbital ductal cysts have been previously classified based on their histology. Parasitic cysts may show the offending parasite on histology.

Figure 2. Benign ductal cyst lined by double-cell layer, with luminal cells showing apical snouts, consistent with apocrine differentiation (hematoxylin and eosin stain, 40X magnification). The double-cell lining is consistent with a ductal type cyst, possibly from an accessory lacrimal gland. Apocrine differentiation may be metastasic secondary to previous surgery.

Conjunctival cysts are often observed, as they are commonly asymptomatic and can resolve spontaneously. When symptomatic, patients can present with mild ocular discomfort or even ptosis. If these cysts persist or increase in size, simple aspiration in the office can be performed. However, the procedure is associated with a high rate of recurrence, and complete surgical excision is often required. Other methods of treatment include thermal cautery and intracystal injections of doxycycline or ethyl alcohol.

Most lacrimal ductal conjunctival cysts are benign. Eye care specialists should suspect the diagnosis if the posterior margin of the cyst extends into the orbit. Complete excision should be performed if indicated.

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