Lacrimal Canaliculitis, A Case Report

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Introduction

Canaliculitis is a chronic unilateral infection of the lacrimal canaliculus which is often overlooked and treated unsatisfactorily. Bacteria, fungi and viruses may all produce such infection, the most common agents reported being actinomycetes. Here we report a case of culture positive bilateral actinomyces canaliculitis involving both upper and lower puncti.

Case Report

A 40 year old male patient presented to us with complaints of watering and purulent discharge from left eye of 1 year duration, pain and swelling of the left eyelids for 2 months. On examination his vision was 6/6 in right eye and 6/12 in left eye. Examination of left eye showed a tender fusiform swelling in the medial one third of left upper and lower eyelids. The neighbouring part of the conjunctiva was inflammed. (Fig.1) There was no tenderness and swelling in the lacrimal sac area. The upper and lower puncti were found to be pouting with expression of tenacious pus on pressure over the swelling. The right eye also showed pouting of lower puncta though it did not show swelling. Patient was asymptomatic in the right eye. Rest of the anterior and posterior segment was normal. He was a known diabetic on irregular treatment.

The punctum was split under topical anaesthesia using a fine scissors taking aseptic precautions and a thick, tenacious purulent material was expressed from the canaliculus. (Fig.2) The casts were removed by performing a 3- snip procedure (Fig.3) followed by irrigation with penicillin solution (100,000 units). The patient was also treated with fortified penicillin eye drops and a course of oral penicillin. The casts collected were sent for microbiological investigations. Repeated irrigation with crystalline penicillin drops was done in the right eye. A portion of collected material was inoculated on blood agar and brain heart infusion broth. On Gram staining the organisms appeared as gram-
positive beaded, coccoid, thin branching filaments.
(Fig.4) The patient recovered rapidly and was left with a slit punctum and adjoining canaliculus. The remaining portion of the lower canaliculus was intact and was patent. Post-operatively, the swelling, conjunctivitis and discharge disappeared (Fig.5).

Discussion

*Actinomyces israelii* species is a gram-positive, cast-forming, non-acid-fast, non-spore-forming anaerobic bacillus. Its filamentous growth and mycelia like colonies have a striking resemblance to fungi. They are soil organisms, often found in decaying organic matter (e.g., wet hay, straw). It is primarily a commensal microbe found in normal oral cavities, in tonsillar crypts, in dental plaques, and in caries teeth and enters the lacrimal system through the nasal passage or indirectly by means of saliva into the conjunctiva. The anaerobic environment also helps in the growth of the Actinomyces in the canaliculus.

Other ocular manifestations include keratitis, conjunctivitis, blepharitis, dacryocystitis, postsurgical endophthalmitis, and infected porous orbital implant. Cervico-facial actinomycosis has also been reported.

Canaliculitis usually presents as chronic watering, redness and discharge from eye. A pouted punctum is clinically diagnostic, although it occurs in less than 50% of all patients who are affected. Typically, the discharge is particulate and contains concretions. The plica may be swollen and congested, and canaliculal swelling and overlying lid erythema are often present. The lower lid is more commonly affected, and the lacrimal sac and the duct are usually not involved. The disease is most commonly unilateral. Among the reported cases almost all were unilateral, involving the lower lid. Bilateral and upperlid involvement as in this case is a rare presentation.

Concretions on the lacrimal canaliculus can also be due to Candida albicans, Aspergillus niger, Fusobacterium species, and Nocardia asteroids.

Lab Studies

Canalicular discharge and canaliculiths may be sent for the following studies:

- Gram stain/Giemsa stain
- Culture and sensitivity (i.e., blood agar, Sabouraud, anaerobic media)
- Special stains (i.e., calcofluor white)

Treatment

Actinomycetes are usually susceptible to penicillins and cephalosporins.

Surgical Care

Failure of resolution of canaliculitis by topical treatment necessitates surgical exploration of the canalicular system and removal of any casts. Extensive surgery is not always required. A 2-snipped punctoplasty, cast removal, curettage, and probing is usually done. Subsequent lacrimal irrigation with 1 MU of penicillin in 10 mL of sterile water may be helpful.

References