

Infection of Upper Punctum and Canaliculi Caused by Actinomyces

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Purpose: The clinical and microbiological findings in a chronic case of lacrimal canaliculitis due to Actinomyces are described.

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Material and Methods: A 55-year-old woman presented with a one year history of intermittent conjunctivitis associated with medial canthal swelling, pain and discharge from her right eye. Topical and oral treatment failed to respond, gram staining was carried out and surgical exploration was done.

Results: Canaliculitis due to Actinomyces was diagnosed on the bases of clinical and laboratory findings. Canaliculotomy was carried out with fine needle of high frequency radio wave cautery of that area to minimize the chance of recurrence. Patient was completely asymptomatic after three moth follow up.

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Conclusion: Gram staining is a simple cheap and affordable method. It should be performed to identify the causative organism. Once diagnoses confirmed surgical exploration is the treatment of choice.

Actinomyces species is a gram-positive, non-acid-fast, non-spore-forming anaerobic bacillus that is difficult to isolate and identify¹. Its filamentous growth and mycelia like colonies have a striking resemblance to fungi². Primary canaliculitis is an uncommon problem caused by Actinomyces. Although culture play a vital role and give us improved results in diagnosis but fixation of smeared concretions on a slide in alcohol is simple and diagnostic of the disease³. We are reporting a case of old woman with one year history of intermittent

conjunctivitis associated with medial canthal swelling, pain and discharge from her right eye. Topical and oral treatment failed to respond so surgical exploration was done.

CASE REPORT

A 55 year old woman presented with 1 year history of discharge, swelling and pain of medial canthal area and medial part of the right uper eye lid. She had been treated medically for the past one year elsewhere,

without any improvement. Her general health was good on her initial visit. She lives in an urban area, she was neither an agriculture worker nor had any close association with animals.

Initial examination revealed, both eye pseudo-phakic with corrected visual acuity of 6/6 in both eyes. There was swelling of the medial 1/3 of the right upper eye lid and the neighbouring part of the conjunctiva was inflamed. The right upper punctum was prominent (Fig.1). On pressure over the sac, unusual yellowish white cheesy granular material came out from right upper punctum which was taken from the eye carefully for microscopic examination.

Material obtained for gram staining contained a large granule. A portion of the granule crushed under the cover-slip in KOH revealed compact masses composed of delicate branching and intertwined filaments under high power lens. The ends of these filaments seen around the periphery of granules had club-shaped appearance characteristic of Actinomycotic granule. The smears taken from this ground material were gram stained and examined under microscope, which showed gram positive short and long delicate and branched filaments (Fig. 2) on the bases of appearance and morphology it was identified as Actinomyces.



Fig. 1: Canaliculitis of the right upper lid

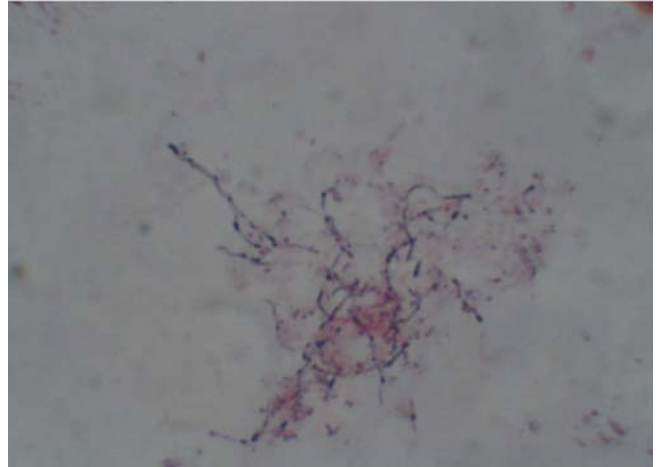


Fig.2: Actinomyces israelii (non-spore forming gram-positive bacilli) Courtesy of Microbiology Section

We plan for canaliculotomy by radio frequency cautery and canaliculus was explored under local anesthesia. Yellowish white cheesy material was removed from the canaliculus followed by application of a high frequency radio wave on that area leaving a cavity 2X 2 mm wide. The patient was continued on topical antibiotics for one month, by which time the infection had completely subsided. Abnormal discharge and swelling around the right upper canaliculus had resolved. Topical antibiotic was tapered and then discontinued. After a further one month the patient was considered to be free of infection and was discharged from the clinic.

DISCUSSION

Canaliculitis is a relatively rare dacryocanal infection which occurs mostly unilateral⁴. It can easily be misinterpreted and due to this, condition does not improve until a correct diagnosis is established⁵. Canaliculitis due actinomyces is characterised by granulation and suppurative infection of the hollow spaces with formation of concretion. Only a microbiologic examination including cultivation of concretion and secretion enabled us to a reliable proof of actinomyces leading to appropriate therapy for canaliculitis⁶. It has been reported that actinomyces mostly occur endogeneously⁷ and this infection is rare in male is approximately twice as great as in female⁸. Actinomyces can affect canaliculi, lacrimal gland, lid-margins, lids, cornea, conjunctiva, posterior segment and orbit^{9,10}. Recovery of concretions from an infected

canaliculus has been taken for diagnosis of Actinomyces. In the majority of cases the so called sulfur granules, composed of aggregates of filamentous branching micro-organisms, classically associated with Actinomyces. Even though Actinomycotic infections are sensitive to antibiotics¹¹ and adjunctive hyperbaric oxygen therapy for actinomycotic lacrimal canaliculitis has also been reported¹² but cure of the canaliculitis does not occur until all the concretions and granulations that were present in the canaliculus were meticulously removed. Along with canaliculotomy we used Ellman Dual Frequency Surgitron. A high frequency radio wave which causes minimal or no bleeding and give better appreciation and restoration of eye lid anatomy. Principles of radiofrequency is based on method of cutting and coagulating soft tissue, directing ultrahigh frequency radiowaves through the tissue cells¹³. This technique is now getting popular in oculoplastic procedures and we thought that high frequency radio wave should be applied so any remaining intracellular organisms may be destroyed and minimize the chance of recurrences.

CONCLUSION

A primary infection of the lacrimal canaliculus due to Actinomyces is relatively uncommon. In our hospital this is 2nd case, 1st was reported in Optic World in 1986. Canaliculitis due to Actinomyces should be considered in any patient who presents with chronic or recurrent conjunctivitis and the eyelid should be inspected for a discharging and 'pouting' punctum. Despite the characteristic clinical symptoms, Gram staining and culture if possible should be carried out to establish the diagnosis. Medical treatment often does not help to cure, it requires surgical exploration of the canalicular system and removal of any casts.

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Guess who?



See next issue for answer.