



A Rare Case Report: Acute Spontaneous Suppurative Dacryoadenitis

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Abstract

We report a case of acute suppurative bacterial dacryoadenitis with abscess formation which is rarely seen in daily practice. A 67-year-old male had been suffering from swelling and purulent discharge on the right eye consulted to our ophthalmology clinics. We noted the ocular and orbit computerized tomography findings for the diagnosis at the beginning. Furthermore, we described the treatment options and its conclusions with the help of its magnetic resonance imaging findings.

Keywords: Lacrimal gland abscess, spontaneous dacryoadenitis, suppurative dacryoadenitis.

Introduction

Dacryoadenitis, a condition defined as acute or chronic inflammation of the lacrimal gland, has many different etiologies. Actually, dacryoadenitis generally presents with non-infectious factors including Sjogren's syndrome, sarcoidosis, Wegener's granulomatosis, and IgG4-related dacryoadenitis (1, 2). Although the most common infective agents in the literature are viruses such as mumps, measles, Epstein-Barr, and influenza, more rarely bacterial factors have been listed as the cause of the acute suppurative dacryoadenitis with lacrimal gland abscess formation (3–5). In most cases, the abscess occurred after the systemic spread in immune-deficiency population or local spread from periocular infections or traumatic inoculation (6). The aim of this article is to report the acute spontaneous suppurative dacryoadenitis with abscess formation. We had patient consent to publish identifiable photograph archival. However, we had not taken the HIPAA consent that was not routinely wanted in Turkey.

Case Report

A healthy 67-year-old male patient consulted to our emergency eye clinic with a 2-day history of pain and redness in his right eye.

External examination revealed redness, chemosis, upper eyelid swelling, purulent discharge, and tenderness on the right eye (Fig. 1a, b).

There was no trauma or systemic disease in the patient's history. The best-corrected visual acuity was 16/20 in the right and 18/20 in the left eye. Anterior segment examination of the right eye revealed clear cornea, minimal senile lens sclerosis, severe chemosis, and conjunctival hyperemia and purulent discharge. No pathology was noted in the posterior segment. The anterior and posterior segments of the left eye were normal. No limitation or extra pain was noted in glob movements. Furthermore, direct and indirect light reflexes were normal.

Orbital computerized tomography imaging revealed an enlarged, heterogeneous right lacrimal gland with areas of

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hyperlucency suggestive of inflammation that is compatible with the abscess formation. No retro-orbital mass was noted. Hence, it was clear that the underlying infection did not advance beyond the orbital septum (Fig. 2).



Figure 1. The upper eyelid swelling. (a) The purulent discharge on lacrimal gland and lateral chemosis. (b)

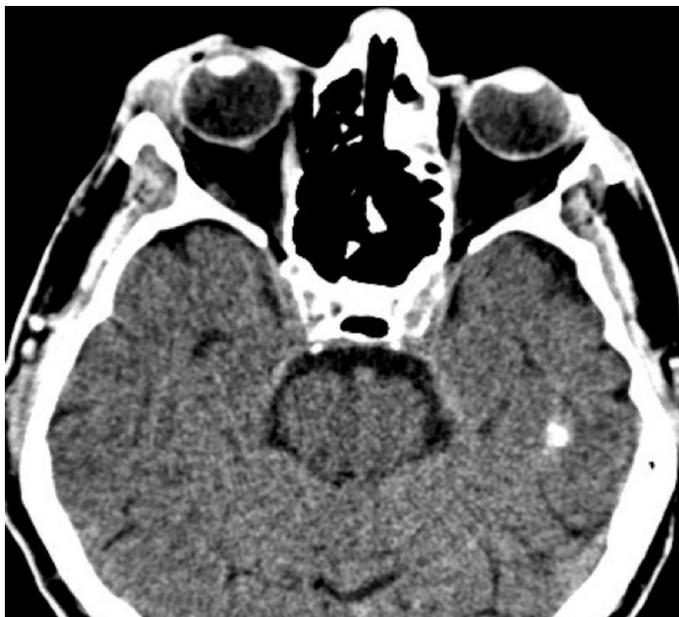


Figure 2. In this orbit computerized tomography sections, the right lacrimal gland is enlarged and in an abscess formation.

The physical and scanning findings were suggestive of acute spontaneous suppurative dacryoadenitis with spontaneous drainage and lacrimal gland abscess formation. The otorhinolaryngology evaluation excluded any concurrent infectious process. The results of laboratory examinations of the complete blood count and inflammatory markers were normal.

Although we had considered taking microbiological cultures from the expressed lacrimal gland discharge, unfortunately, it was not possible in our emergency clinic's conditions.

According to the physical examination, the character of the purulent discharge and imaging findings bacterial dacryoadenitis was suspected. Systemic empirical antibiotic treatment of 1000 mg ampicillin/sulbactam intramuscularly twice a day, naproxen sodium (nonsteroidal anti-inflammatory) tablet orally twice a day, moxifloxacin drop 8 times a day, and tetracycline ointment was started once a day. 2 days after treatment, the patient showed significant improvement, with decreased periorbital swelling, chemosis, and conjunctival hyperemia (Fig. 3a, b). Furthermore, there was no ocular pain anymore. At this point, we changed the intramuscular ampicillin/sulbactam treatment to the oral way in same doses and continued for 7 days.

At the last visit on day 7, on both in magnetic resonance imaging scanning and biomicroscopic examination, there were not any ocular findings of infection and thus the remission was completed (Fig. 4).

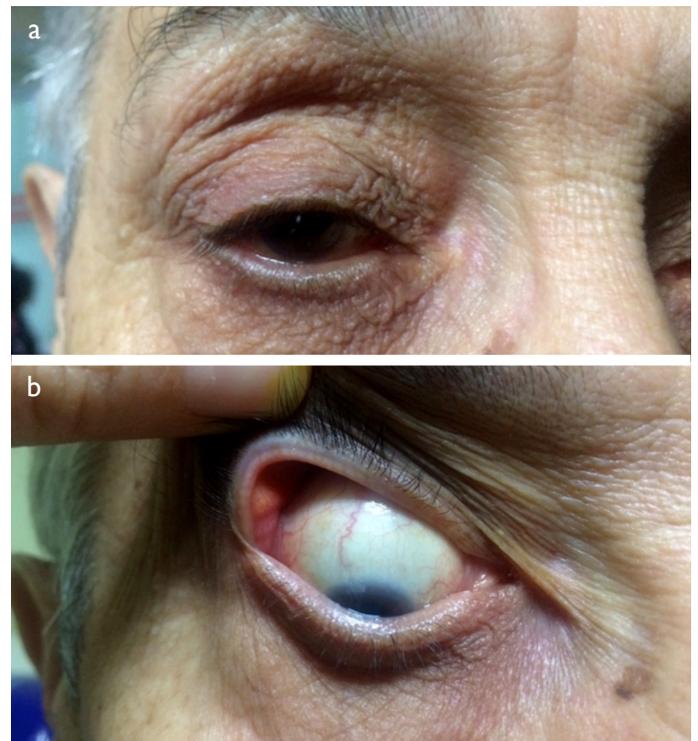


Figure 3. (a) The eyelid puffing was disappeared at the 7th day of the medication. (b) The lacrimal gland and conjunctiva were truly became natural on day 7.

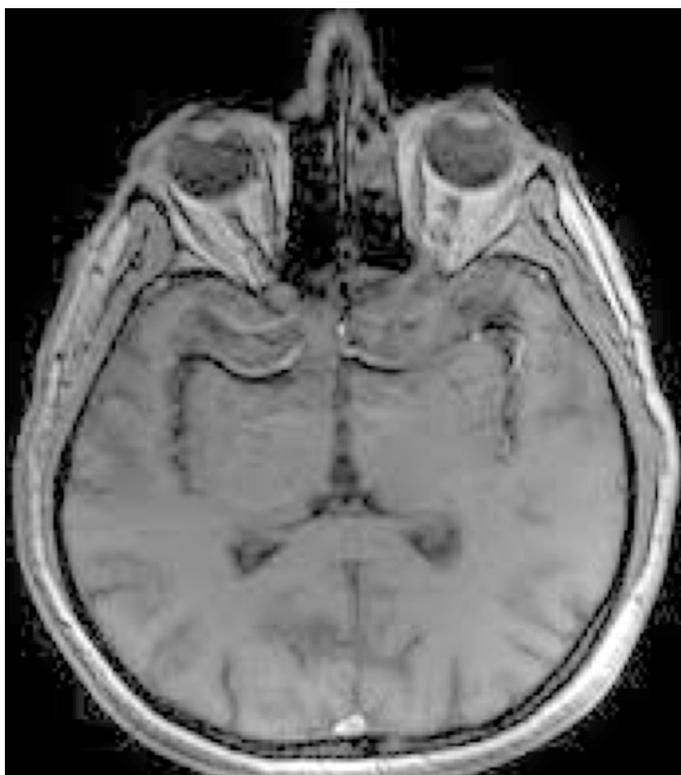


Figure 4. Lacrimal gland and all intraorbital tissues look normal in day 7 magnetic resonance imaging image.

Discussion

Acute or chronic dacryoadenitis is frequently bilateral and non-infectious. Dacryoadenitis of infectious origins tends to be acute and unilateral, whereas those secondary to inflammatory conditions are more likely to be chronic and bilateral in nature (7).

There is an elementary study in the literature showing biopsy results from inflaming lacrimal glands and published in 2017 (8). The histopathologic findings of the 60 patients showed that 37 (61.7%) had identifiable types of lacrimal inflammation including 10 with Sjogren's syndrome, seven with sarcoidal reaction, six with feature of granulomatosis with polyangiitis (formerly known as Wegener's granulomatosis), five with lymphoma, two with sclerosing inflammation, two with IgG4-related dacryoadenitis, one with myoepithelial carcinoma, xanthogranuloma, eosinophilic angiocentric fibrosis, and eosinophilic allergic granulomatous nodule. Finally, only one patient of 60 was reported as an infectious dacryoadenitis. The histopathologic findings of the remaining 23 (38.3%) patients showed non-specific inflammation of the lacrimal gland. 23 patients (38.3%) had associated systemic diseases.

The literature search of the case reports specified with patient age identified 12 pediatric and 11 adult cases with acute suppurative bacterial dacryoadenitis (3, 6, 9). Six of

them were caused by MRSA, four were due to *Staphylococcus aureus* (sensitivity not specified), one was due to polymicrobial infection, and one was caused by *Klebsiella pneumoniae*. Only two of 12 children had spontaneous dacryoadenitis without any history of trauma, insect bite, upper respiratory tract infection, or sinusitis. Differently, in both of these cases, the responsible factor was MRSA and more aggressive than the others. The other 10 had one of the predisposing local or systemic factors (10).

Like our case, 11 adult cases of acute bacterial suppurative dacryoadenitis were found in the literature (3, 11–13). One was due to MRSA, five were due to *Staphylococcus aureus*, and two were due to *Streptococcus pneumoniae*. Unfortunately, in our case, we were not able to take microbiological culture samples and find out the effective microorganism species. However, none of these adult cases were developed spontaneously similar to our case.

Actually, in these cases, acute bacterial dacryoadenitis had come out secondary to an adjacent infection such as acute conjunctivitis or erysipelas and also as a result of a metastatic spread from a distant infection such as gonorrhea, pneumonia, or even typhoid (14, 15). All these cases were treated with agent sensitive systemic antibiotherapy. In more serious cases, the lacrimal abscess drainage was needed to be performed. Furthermore, it was reported that the treatment of all cases reached success.

In conclusion, we reported the first spontaneous acute suppurative dacryoadenitis with its specific symptoms, findings, and treatment options in the adult population. We consider that acute suppurative dacryoadenitis developing spontaneously is more likely to be bacterial and virulent. Hence, it is a quite ophthalmological emergency status and should be treated rapidly before the infectious spread to orbit or systemic areas.

Disclosures

Informed consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship Contributions: Involved in design and conduct of the study (AP, ORO); preparation and review of the study (AP, ORO); data collection (AP, ORO).

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