ORIGINAL RESEARCH PAPER

Medical Science

# LACRIMAL GLAND ABSCESS FOLLOWING ACUTE INFECTIVE SUPPURATIVE DACRYOADENITIS IN A YOUNG CHILD: A RARE CASE REPORT

**KEY WORDS:** pelvis, sexual dimorphism, sciatic tubercle.

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**ABSTRACT**

Lacrimal gland abscess is an uncommon infection of the orbital structures .We report a case of lacrimal abscess following a infective suppurative dacryoadenitis in a young child . Computed Tomography of orbit was used to confirm the diagnosis . The aim of treatment was to prevent visual and life threatening complications of orbital cellulitis .Prompt and combined treatment of intravenous antibiotic , surgical incision and drainage is necessary for complete resolution of the lacrimal gland abscess specially in a child.

## INTRODUCTION

Lacrimal gland abscess is a rare entity specially in a child . It can follow acute or chronic dacryoadenitis i.e, inflammation of lacrimal gland caused by a variety of micro-organisms [1-3]. Early and prompt management is needed to prevent visual and life threatening sequelae, including orbital cellulitis or abscess, blindness, cavernous sinus thrombosis and intracranial abscess etc.. [4] It can be of non-infective variety too. Acute suppurative dacryoadenitisis a very rare. A case is presented where a young adult developed acute bacterial dacryoadenitis leading to suppuration.

## CASE REPORT

A 7-year-old female child developed redness and pain in the right eye with a large swelling of the right upper lid .( Figure 1) It was insiduous in onset and painful. The swelling was not associated with blurring of vision, nasal discharge but there was a low grade fever. There was no prior history of trauma or insect bite to the eyelid. Visual acuity was 6/6 (20/20) in the right eye and the left eye. Both pupils were equal and reactive to light. The right upper lid was inflamed, warm, tender, and caused a complete mechanical ptosis. The conjunctiva was hyperemic and chemotic on temporal side in the right eye with scanty discharge.( Figure 2) The anterior segment and fundus examinations were within normal in both eyes. The intraocular pressure was normal . On palpation, there was a tender nodular swelling in the lateral part of the right upper eyelid. There was no proptosis, deviation of eyeball or restriction of ocular movements . On raising the lid, the swollen lacrimal gland bulged out from its under surface and had a pus point . (Figure 2) There was no adjacent skin infection and no history or signs of direct trauma A diagnosis of acute suppurative dacryoadenitis involving palpebral portion of the lacrimal gland was made clinically.Systemic examination revealed multiple palpable submandibular lymph nodes . Other systemic examinations were unremarkable.

An urgent Computed Tomography (CT) of brain, orbit revealed a well defined heterogenous predominantly hypoattenuating ,thick enhancing wall collection in the right orbit with internal septas and central necrotic core , arising from the lacrimal gland with obliteration of the orbital septum .( Figure 3) Full blood count showed leucocytosis with predominantly neutrophil count. A sample of conjunctival discharge was collected for culture from the inferior fornix. FNAC was done and sent for examination . She was diagnosed with left orbital cellulitis with lacrimal gland abscess secondary to acute dacryoadenitis and was started on intravenous amoxycillin clavulanate 850mg 8 hourly, topical moxifloxacin 2 hourly and ointment fusidic acid 8 hourly on the right eye.

The patient was not improving and there was purulent discharge from the superior fornix upon digital compression of superotemporal area of the right upper lid , suggestive of pus from the lacrimal gland .( Figure 4) So lacrimal gland abscess was drained by making a nick at the pus point and the materials were sent for examination and culture.( Figure 5) There was a reduction in upper lid swelling, and the patient was able to open her right eye . A temporary fistula lasted for a few days at the drainage site . Culture of the pus grew *Staphylococcus aureus* which was sensitive to the above antibiotic . She completed one week course of intravenous amoxycillin clavulanate . Eventually, there was an improvement in the swelling of the right upper lid, with minimal limitation of elevation in the left eye. She was discharged with oral amoxycillin clavulanate 625mg twice daily for two weeks and topical moxifloxacin . She was reviewed at one week later.( Figure 6)The right upper lid looked normal with slight congestion of the conjunctiva on superotemporal area and crusting over the upper lid area .

## DISCUSSION

Acute dacryoadenitis is a rare ocular disease with an incidence of 1:10,000 people [5]. Acute suppurative bacterial dacryoadenitis leading to lacrimal abscess is still rarer. The pathophysiology of dacryoadenitis is due to ascending infection from adjacent conjunctiva through the lacrimal ductules into the lacrimal gland, trauma and bacteraemia [6]. Acute dacryoadenitis may result from systemic infections such as mumps, measles, influenza, infectious mononucleosis, herpes zoster and gonorrhoea and it can also occur consequent to staphylococcal conjunctivitis [4,6] .Rhemn *et al.* reported Epstein-Barr virus to be the commonest causative organism [7]. Other than that, *Staphylococci, Streptococci* and *Gonococci* are commonly found to be the causative bacterial pathogens [5].

To confirm the diagnosis of lacrimal gland abscess, and exclude other possible complications, such as orbital abscess, cavernous sinus thrombosis and intracranial abscess following acute dacryoadenitis CT orbit and brain is necessary . Sometimes complications can arise such as development of fistula, consecutive lacrimal hyposecretion, severe reactive oedema of the orbital tissue [1].

Broad spectrum intravenous antibiotic is still the mainstay of treatment in such cases of lacrimal or orbital cellulitis [4]. However, surgical incision and drainage is compulsory for complete resolution of the abscess [ 6,8,9]. We decided to proceed with incision and drainage of the abscess as the patient was not improving with only the intravenous antibiotic.

## CONCLUSION

Lacrimal gland abscess following acute dacryoadenitis is uncommon and should be considered emergency specially in children . A thorough evaluation should be done with various

imaging techniques like Ultrasonography , CT Scan , MRI etc. . Early diagnosis and prompt treatment is needed to prevent the devastating sequelae. Diagnostic imaging helps to confirm the diagnosis and plays a very important role in such cases .

## FIGURES

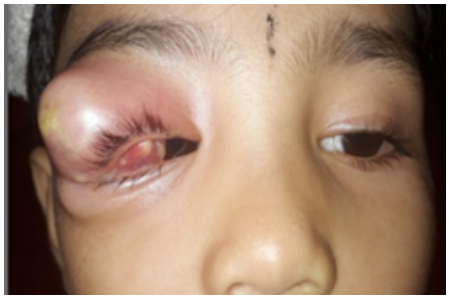

**Figure 1: Large swelling of the right upper lid causing complete mechanical ptosis.**

**Figure 2: Conjunctiva was hyperemic and chemotic on temporal side in the right eye with scanty discharge and swollen lacrimal gland bulging out from its under surface.**

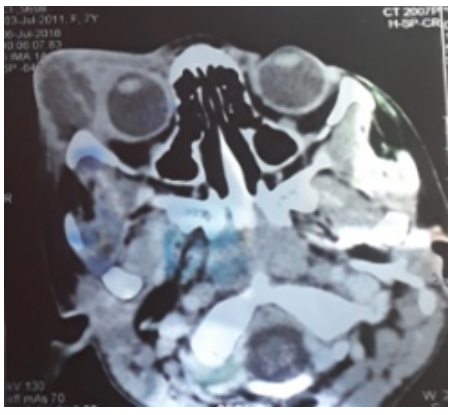

**Figure 3: CT scan of brain with orbit revealed a well defined heterogenous predominantly hypoattenuating ,thick enhancing wall collectionin right orbit .**

**Figure 4: Purulent discharge from the superior fornix upon digital compression of superotemporal area of the right upper lid.**

**Figure 5: : After incision and drainage of the abscess .**

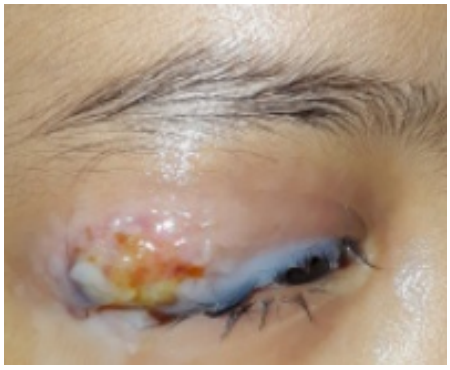

**Figure 6 : Follow up after one week .**

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