Dacryops or Lacrimal Gland Cyst – A Rare Case Report

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Abstract

Dacryops, also known as a lacrimal gland ductal cyst, is a rare benign cystic lesion arising from the primary or accessory lacrimal glands. Although commonly asymptomatic and slow growing, dacryops may become clinically significant when associated with acute inflammation or secondary infection. This case report describes an unusual presentation of infected dacryops in a paediatric patient, highlighting diagnostic challenges and the importance of thorough clinical and radiological evaluation. A nine-year-old female presented with sudden onset of painful swelling of the left upper eyelid, prompting initial suspicion of an inflammatory or infectious etiology such as preseptal cellulitis. Clinical examination revealed localized tenderness, chemosis, erythema and restricted extraocular movements on lateral gaze, raising concern for orbital pathology. Initial management with intravenous antibiotics resulted in partial symptomatic improvement but persistent superotemporal fullness prompted further evaluation. Ultrasonography revealed a single-walled cystic lesion with low internal reflectivity, while MRI demonstrated a well-defined extraconal cystic structure arising from the left lacrimal gland with surrounding soft-tissue edema. These findings confirmed the diagnosis of dacryops with acute infection. Because the condition was benign and the guardians declined surgical intervention, conservative management and observation were adopted. This case emphasizes the importance of considering dacryops in the differential diagnosis of upper fornix or lacrimal gland swellings, especially in paediatric age groups where such presentations are exceedingly rare. Early radiological assessment using ultrasound and MRI assists in differentiating dacryops from more serious conditions like orbital abscess or cellulitis. Awareness of this entity can prevent unnecessary interventions, ensure appropriate management, and minimize diagnostic delays. The case also highlights the role of clinical judgment in deciding between surgical excision and conservative observation. This report contributes to the limited literature on paediatric dacryops and underscores the need for continued documentation of such unusual presentations.

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Keywords: Dacryops, Lacrimal Gland Cyst, Paediatric Ophthalmology, Orbital Swelling, MRI, Case Report

Introduction

Dacryops is an uncommon benign cystic lesion originating from the ductal system of the primary or accessory lacrimal glands. First described several decades ago, this condition remains rare, with limited cases reported in medical literature. It typically manifests as a slow-growing, painless lesion within the upper eyelid or fornix but may present more acutely when associated with inflammation or secondary infection. Anatomically, the lacrimal gland is situated in the superotemporal quadrant of the orbit, and lesions arising from this structure often present with localized swelling, discomfort, or mechanical effects on extraocular movements.

While dacryops is well-recognized in adults, its occurrence in children is significantly less common, making paediatric presentations diagnostically challenging. In many cases, dacryops remains asymptomatic and may be discovered incidentally during routine clinical examinations. However, in symptomatic patients, the condition can mimic other orbital or periocular diseases such as chalazion, dermoid cyst, orbital cellulitis, or dacryoadenitis. Distinguishing dacryops from these entities requires a careful combination of clinical evaluation and imaging modalities. Radiologically, ultrasonography typically reveals a well-circumscribed cystic lesion, while MRI further characterizes its extent, composition, and relationship to surrounding structures. MRI is particularly valuable in differentiating cystic from solid masses and identifying potential complications. Management of dacryops depends on factors such as symptoms, lesion size, patient age, and presence of infection. While surgical excision is curative in most cases, conservative treatment or observation may be appropriate for stable or minimally symptomatic lesions. In paediatric cases, the decision for surgery must also consider patient cooperation, risk of recurrence, and parental preferences. This report presents a rare case of dacryops with acute infection in a nine-year-old girl. The rarity of the condition in children combined with its acute inflammatory presentation highlights the diagnostic difficulty. Through this case, we aim to increase awareness of dacryops among clinicians and emphasize the value of timely imaging, clinical judgment, and individualized management decisions. The case also contributes to the growing but still limited literature describing paediatric dacryops and underscores the importance of recognizing this condition as part of the differential diagnosis for lacrimal gland region swellings.

Materials & Methods

This case report is based on a detailed evaluation of a single paediatric patient presenting with acute onset orbital symptoms. A structured methodology was followed to document clinical presentation, diagnostic assessments, and management strategies.

Patient History: A nine-year-old female was brought to the ophthalmology outpatient department with sudden onset of painful swelling in the left upper eyelid for three days. The child reported severe discomfort and difficulty in opening the eye. There was no history of ocular trauma, previous ocular surgeries, systemic illness, or similar complaints in the past.

Clinical Examination: Visual acuity was 6/6 in both eyes. Extraocular movements were full in the right eye but restricted in the left eye on lateral gaze. Eyelid inspection revealed localized swelling, tenderness, and erythema in the superotemporal quadrant of the left upper lid. Conjunctival chemosis and hyperemia were present. Anterior segment evaluation was otherwise normal. No proptosis or globe dystopia was noted. Fornix examination through lid eversion was initially limited due to pain.

Initial Management Protocol: Based on the acute inflammatory signs, the patient was started on intravenous antibiotics appropriate for paediatric dosing, along with topical antibiotic-steroid combination therapy. Symptomatic improvement in pain and swelling occurred, but the persistent superotemporal fullness remained unchanged after three days of treatment.

Imaging Investigations: Ultrasonography was performed, which showed a single-walled cystic lesion with low internal reflectivity and no evidence of intraorbital extension. Based on these findings, a cystic lacrimal gland lesion was suspected. Subsequently, MRI orbit was conducted. MRI demonstrated a well-defined cystic lesion measuring approximately $8.6 \times 6.1 \times 9.7$ mm within the extraconal space of the left orbit, arising from the lacrimal gland. Surrounding soft tissues showed edema and inflammatory changes, supporting the diagnosis of an infected dacryops.

Diagnostic Confirmation: Combining clinical examination with radiological findings allowed confirmation of dacryops with acute infection. Differential diagnoses considered included dacryoadenitis, dermoid cyst, and orbital cellulitis, but imaging findings were most consistent with dacryops.

Management Decision: Surgical excision was discussed as a curative option; however, the patient's guardians declined surgery due to age-related concerns. As the lesion was benign and improving symptomatically, conservative management with close monitoring was adopted. Regular follow-ups were scheduled to assess lesion stability and symptom progression.

Outcome Measures: Clinical parameters such as pain, swelling, lid function, ocular motility, and lesion size were monitored. No progression or worsening signs were noted during follow-up. This methodological approach ensured a systematic evaluation and clinically sound decision-making process.

Results

Following initial presentation and treatment, the patient demonstrated symptomatic improvement in pain and eyelid inflammation, though persistent fullness remained in the superotemporal area. Ultrasonography showed a single-walled cystic lesion with low internal reflectivity, indicating a benign cyst without intraorbital spread. MRI confirmed a well-defined extraconal cyst arising from the lacrimal gland, consistent with dacryops. Restricted lateral gaze improved gradually over the monitoring period, and there were no signs of progression, proptosis, or worsening inflammation. Conservative management resulted in stabilization of the condition with improved patient comfort.

Discussion

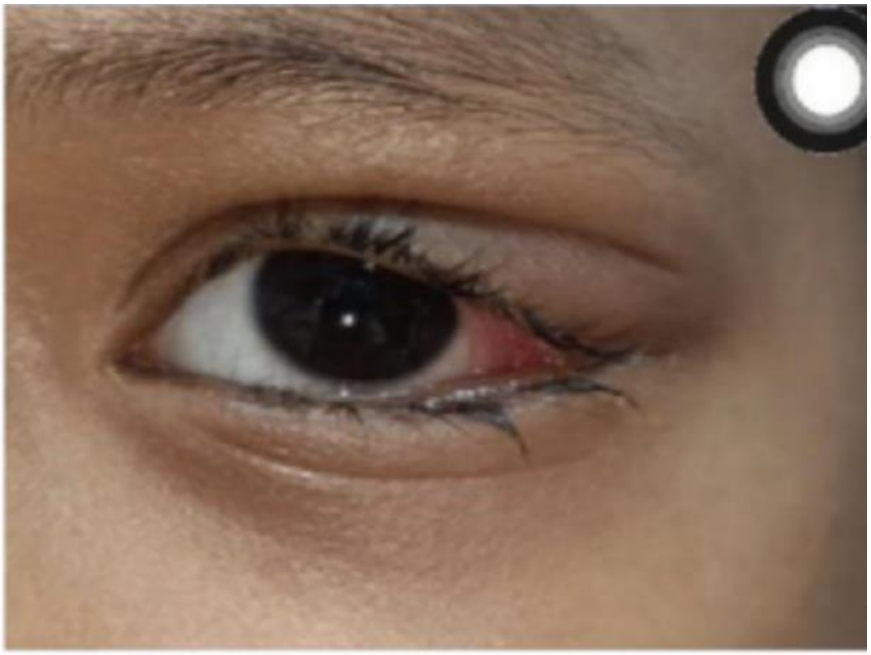
Dacryops is a rare lacrimal gland ductal cyst, especially uncommon in paediatric patients. Its presentation with acute infection complicates diagnosis, often mimicking orbital cellulitis or other inflammatory conditions. Radiological evaluation using ultrasound and MRI is essential in confirming the diagnosis and distinguishing it from other orbital masses. While surgical excision remains the standard curative approach, conservative observation is a safe and viable option in selected cases, particularly when symptoms improve and families decline surgery.

Conclusion

This case highlights a rare presentation of infected dacryops in a child, demonstrating that lacrimal gland cysts should be considered in the differential diagnosis of upper eyelid swellings. Clinical evaluation supported by imaging

modalities such as ultrasonography and MRI plays a crucial role in achieving accurate diagnosis. Although surgical excision is curative, conservative management may be appropriate when symptoms improve and the lesion remains stable. Early recognition helps avoid misdiagnosis and unnecessary interventions.

Ocular Examination



	Righteye	Lefteye
Vision	6/6	6/6
EOM	Fullrange	Restricted in lateral gaze
Eyelid	Normal	Lateral swelling with tenderness andery thema
Conjunctiva	Normal	Chemosisandhypermia

- Rest all finding so fanterior segment are normal No proptosis or globe dystopia was seen
- Due to pain and discomfort fornix examination could not be conducted by lid eversion on 1st visit

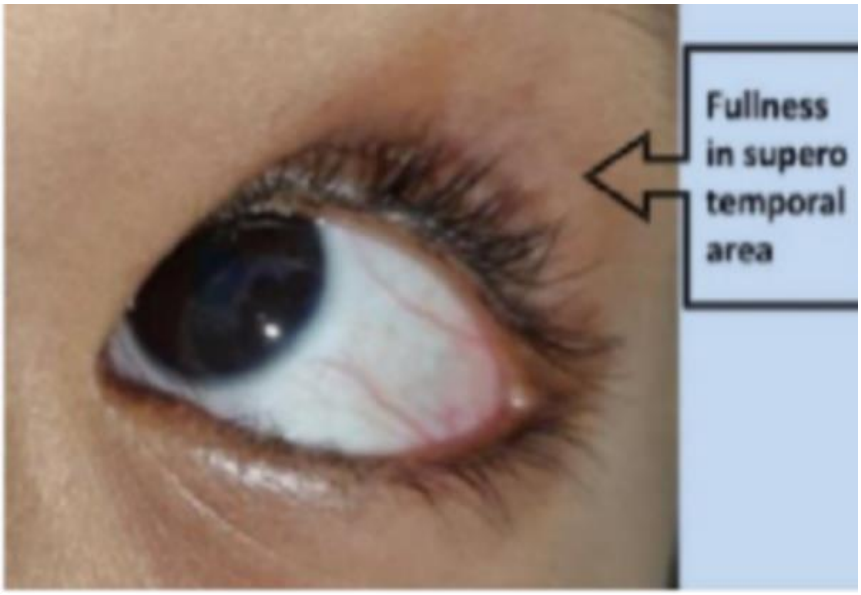
Management

Patientshowedsymptomaticreliefinpainandswellingwithpaed iatricdoseofIV antibiotics medications and topical medications

However, there was no reduction in fullness in superotemporal quadrant of orbit even after 3 days

On double lid, eversion, bluish, pink nodule was seen superotemporally

Patient was subjected for further investigations



Investigations

Ultrasonography: showed a single walled cyst with low internal reflectivity without intra orbital extension, suggesting cystic lesion

MRI Orbit: well defined lesion of approx size (8.6*6.1*9.7) with thickening and edemaofadjacentsofttissuesnotedinleftlacrimalglandinextraconalspaceof left orbit

Diagnosis

- **Provisional diagnosis:** Benign left lacrimal gland cyst
- **Final diagnosis confirmed by investigations:** Dacryops with acute infection in paediatric age group

Discussion

Dacryops is uncommon benign cystoflacrimal gland with unclear pathogenesis major preference seen in young and middled aged females [3]

When associated with acute infection and inflammation, it may be confused with orbital cellulitis or abscess

It is a rare case of the dacryops with acute infection in paediatric age

Thepatientwastakenunderregularobservationasguardiandeniedforsurgical interven

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