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Case report

Isolated left upper eyelid ptosis with pansinusitis and contralateral otitis media in a 9-year-old boy

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ABSTRACT

Purpose: Upper eyelid ptosis has different etiologies in children and adults. In children, the common causes include orbital cellulitis, congenital ptosis, Cranial Nerve (CN) III palsy, and Horner's syndrome. The purpose of this report is to discuss an unusual presentation of ptosis.

Observations: We describe a case of a 9-year-old boy with left-sided ptosis with no apparent clinical signs of orbital or preseptal infection. Magnetic resonance imaging (MRI) revealed pansinusitis and contralateral otitis media with direct extension into the superior aspect of the left orbit affecting the levator palpebrae superioris muscle.

Conclusions and importance: This finding on imaging disclosed the etiology of an otherwise unexplained case of upper lid ptosis.

1. Introduction

Acquired upper eyelid ptosis can have many different etiologies, including traumatic, mechanical, neurogenic, and myogenic.[1] The most common cause of ptosis in the older population is aponeurotic due to levator dehiscence.[1] In the pediatric population, common causes include congenital ptosis, Cranial Nerve (CN) III palsy, Horner's syndrome, and mechanical ptosis due to a space-occupying lesion or orbital cellulitis. It is exceedingly rare for orbital cellulitis to cause isolated upper lid ptosis without any other associated neuro-ophthalmological findings or orbital signs such as chemosis, limited motility, proptosis, or afferent pupillary defect.

Orbital cellulitis is a rather commonly encountered pathology in the pediatric population and delineating between preseptal and orbital cellulitis is critical to determine diagnostic studies and management. Findings on the history and physical examination should heighten the suspicion for the location of the infection. Preseptal cellulitis more often occurs in young children and following minor trauma, while orbital cellulitis more often occurs in older children, concomitantly with acute sinusitis. The hallmark features of orbital cellulitis include fever, diffuse bulbar chemosis, diplopia due to ophthalmoplegia, and proptosis.[2] Herein, we report a unique presentation of orbital cellulitis with isolated left upper eyelid ptosis in a 9-year-old boy with pansinusitis and otitis media. The collection and evaluation of protected patient health information was HIPAA-compliant.

2. Case report

A 9-year-old boy with no past ocular history and with a past medical history of long QT syndrome on daily nadolol (Corgard) presented to an outside hospital Emergency Department (ED) with a chief complaint of left upper eyelid (LUL) drooping, left brow pain, and nasal congestion for 3 days. He was seen at his pediatrician's office 3 days prior and was started on a course of amoxicillin for a right ear infection. The vital signs revealed a temperature of 98 °F (36.7 °C), a pulse of 66, a respiratory rate of 20; the blood pressure was 118/68 with an oxygen saturation of 98%. The physical exam was significant for a LUL ptosis and bilateral opaque middle ear effusions, worse on the right than the left. Complete blood count (CBC) with differential and chest X-ray were unremarkable. A computed tomography (CT) of the head without contrast was performed and was negative for any acute intracranial process. It did show, however, significant paranasal sinus disease including involvement of the sphenoid sinus and ethmoid air cells, bilaterally. After receiving a dose of intravenous ceftriaxone, the patient was transferred to the University of Virginia (UVA) ED due to unexplained ptosis.

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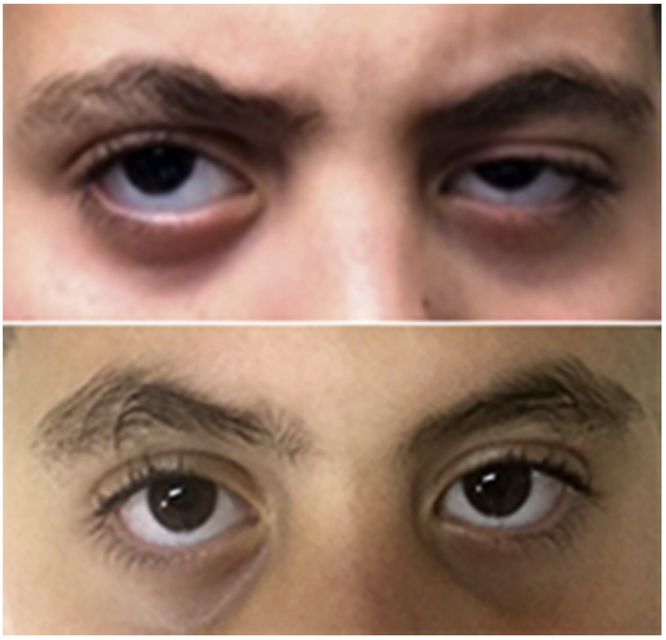

Fig. 1. Patient Photographs: Photograph at initial presentation depicting 3 mm of left upper eyelid (LUL) ptosis (upper frame). Photograph sent from the father a few weeks after completing antibiotics showing resolution of ptosis (lower frame).

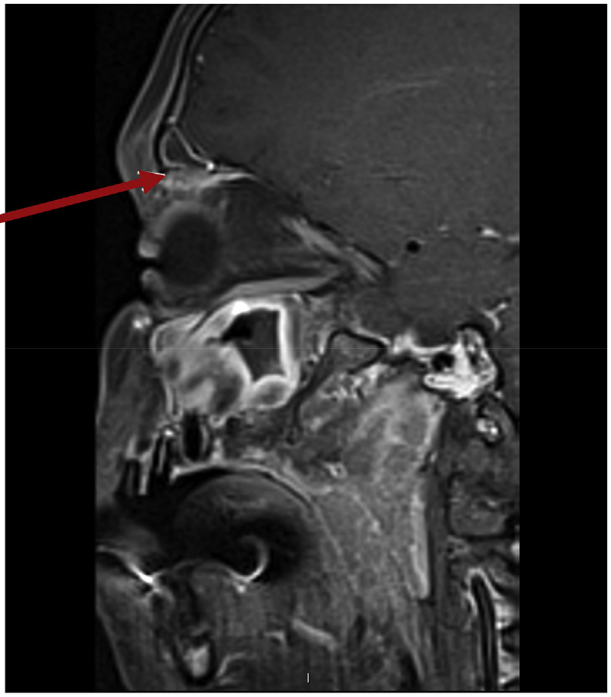

Fig. 3. Sagittal T1 Image: Sagittal T1 post contrast image with fat saturation through the left orbit demonstrating frontal sinus mucosal thickening with enhancing inflammation extending through the bony orbital roof into the superior extraconal space (arrow).

The Ear, Nose, and Throat (ENT) examination revealed a bulging and hyperemic right tympanic membrane with purulent fluid in the middle ear space. The left tympanic membrane was clear and intact with normal anatomic landmarks. No evidence of orbital cellulitis or abscess was detected. The CT performed previously was interpreted at UVA similarly emphasizing “right acute otitis media and pansinusitis with no signs of preseptal or orbital cellulitis”. A dose of intravenous Unasyn was given in the ED and the patient was prescribed oral Augmentin for 14 days; nasal saline irrigations qid and Flonase bid were also recommended.

The patient was then referred to UVA Ophthalmology Clinic 4 hours after his ENT examination due to unexplained LUL ptosis (Fig. 1). His uncorrected visual acuity was 20/25 OU. The pupils were equal in light and dark with no afferent pupillary defect which was confirmed by 2 ophthalmology residents and faculty on duty. The intraocular pressure (IOP) by rebound tonometry was 21 mm/Hg OU. The visual fields were full to confrontation bilaterally. He had full motility in both eyes with no strabismus. He was found to have at least 100 seconds of stereopsis. On external exam, no periorbital edema, erythema, or warmth was detected but he had mild tenderness over his left brow area. The palpebral fissures were 9 and 6 mm OD and OS respectively. Margin-reflex distance test 1 (MRD1) was 4 mm OD, 1 mm OS. The levator functions were 17 and 16mm in OD and OS respectively. There was no lagophthalmos. By Hertel exophthalmometry, axial global protrusions were symmetrical at 17 mm OU at a base of 120 mm. The eyelids, lashes, and lacrimal system were normal on the right side. On the left, there was LUL ptosis but no eyelid or periorbital edema, erythema, or warmth. Biomicroscopically, the conjunctiva and sclera were normal with no injection or abnormal pigmentation OU. The remaining anterior segment examination, dilated indirect ophthalmoscopy, and neuro-ophthalmic examination did not reveal any pathology.

The patient had symmetric pupil sizes and reactions with full motility, making Horner's syndrome or a CN III palsy unlikely. By examination and CT he had pansinusitis and an ear infection, but the primary involvement was on the right side. ENT examination showed a “clear and intact left tympanic membrane with normal anatomic landmarks.” Moreover, he had no clinical evidence of orbital inflammation. A magnetic resonance imaging (MRI) study was requested

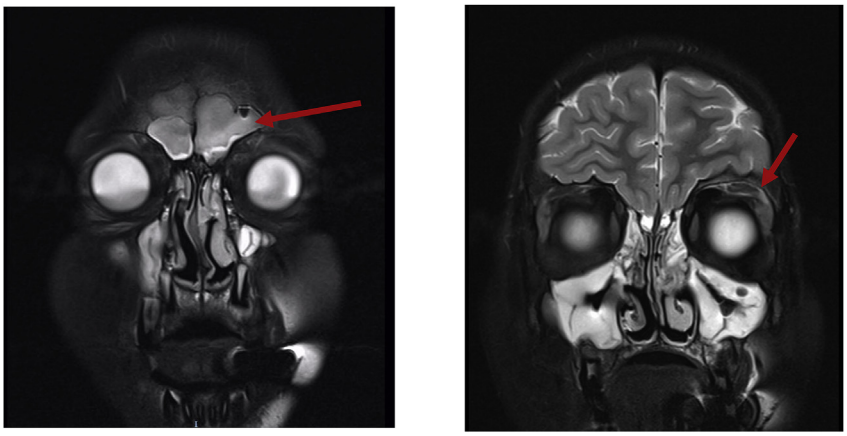

Fig. 2. Coronal T2 Images: Coronal T2 image (left) with fat saturation through the frontal sinuses demonstrating mucosal thickening and fluid opacifying the sinuses (arrow). Coronal T2 image (right) with fat saturation demonstrates extensive maxillary and ethmoid mucosal thickening and edema involving the superolateral extraconal space of the left orbit (arrow).