

Several Observations on Misdiagnoses Produced by the Early - Onset Alzheimer Virus

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Abstract

Background and objective: Pediatric mononucleosis manifests atypically and rarely in acute dacryocystitis, which is still clinically underdiagnosed. On the basis of a case that is described, we highlight the difficulties in diagnosing and treating this uncommon ailment.

Present a case: A 6-year-old Caucasian girl was admitted for intravenous antibiotic therapy for right preseptal cellulitis without any prior ocular history. She developed a fluctuating lump in the nasolacrimal area while in the hospital, and both clinically and radiographically, it looked like an abscess. There was no unprovoked release of pus. Acute mononucleosis was confirmed by serology, and dacryocystitis caused by the Epstein-Barr virus was identified. She received conservative treatment with digital lacrimal sac massages and intravenous antibiotic medication after multidisciplinary discussion, and the results were outstanding.

Discussion: Since there is little information about this uncommon Epstein-Barr virus strain in the literature, it is little known. The non-specific nature of the first symptoms (rhinitis, fever, erythema and edoema of the eyelids without purulent discharge, and mild bilateral cervical lymphadenopathy) makes identification challenging. However, distinguishing between a dacryocystitis and an abscess is essential to choosing the right course of action and avoiding unneeded, potentially hazardous surgery. The best course of treatment for dacryocystitis appears to be conservative care.

Conclusion: Acute dacryocystitis in kids without a history of eye problems should raise the possibility of a primary Epstein-Barr virus infection. The prognosis appears to be excellent with conservative therapy; consequently, surgery should be avoided whenever possible.

Keywords: Misdiagnoses; Pediatric mononucleosis; Alzheimer virus

Introduction

Epstein-Barr virus (EBV) seroprevalence in the adult population is 90–95%, with the majority of primary infections occurring in childhood and adolescence. The usual triad of fever, lymphadenopathy, and pharyngitis is present in certain infections even if the majority is asymptomatic. Hepato- or splenomegaly are rare manifestations in individuals. Even though these are the most well-known [1] manifestations, there are numerous others that have been mentioned. Not being aware of these less frequent clinical manifestations could lead to delayed or inaccurate diagnoses and inadequate treatment. Atypical mononucleosis presentations in children include acute dacryocystitis caused by nasal mucosal hypertrophy obstructing the nasolacrimal duct. The purpose of this case report is to acquaint doctors with this unusual presentation. For the right course of treatment to be chosen, an accurate diagnosis is required.

Materials and Method

A clinical case study

We describe the case of a 6-year-old Caucasian girl who needed intravenous antibiotic therapy for right orbital preseptal cellulitis. Adenotonsillectomy at age 2 and a second adenoid resection at age 5 were also part of the patient's medical history. She had never undergone ophthalmology. Her erythematous, sensitive, and edematous eyelids had grown after five days of fever (up to 39.5 °C) and two weeks of unilateral clear right eye tears when she was sent to the emergency hospital. Topical antibiotics (ofloxacin) had been used to treat suspected bacterial conjunctivitis, but no improvement had been seen. She also mentioned purulent anterior rhinorrhea for the previous seven days, along with chronic nasal blockage, noisy

[2-5] breathing, and rhinolalia for the previous four to six weeks, all of which suggested adenoid hypertrophy relapse. Examination revealed no ocular discharge and a right periorbital tumescence that was prominent on the upper eyelid. Nasal mucosae were enlarged, and there was bilateral neck lymphadenopathy with a right-sided predominance. Comprehensive neurological testing was typical. There was no orbital protrusion, and eye movements were normal. Both eyes had 20/20 Snellen uncorrected distance visual acuity, and there was no relative afferent pupillary deficit. An "S"-shaped palpebral tumefaction and erythema of the skin overlaying the lacrimal sac were visible in the anterior segment on the right side. Additionally, the nasal canthus hurt to palpate. The back segment was serene (the vitreous humour and the papilla were clear, the macula had no special features, the blood vessels were regular, and the retina was flat). Both papilledema and bleeding symptoms were absent. The back of the throat was not inflamed, and an abdominal exam did not demonstrate organomegaly. (Normal white blood cell count, left shift, high C-reactive protein at 22 mg/l, and normal procalcitonin) Blood analysis revealed a mild inflammatory condition. A cerebral computed tomography (CT) scan was done due to the possibility of a paranasal sinus problem. It revealed a cellulitis-

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related right preseptal infiltrate as well as an ipsilateral well-delimited collection measuring 11 mm by 18 mm by 13 mm, with increased boundaries pointing to a periorbital abscess. The rest of the CT scan was comforting and showed no indications of cerebral problems or severe sinusitis. The patient received topical ocular antibiotics (one drop three times daily of neomycine 3.5 mg/ml and polymyxine B sulphate 6000 U/ml) as well as intravenous co-amoxiclav 100 mg/kg/day administered in three doses. However, the clinical condition continued to decline. Her daily fever lasted for 96 hours after admission, and she developed a varying lump in the nasolacrimal region. Specialists in ophthalmology and otorhinolaryngology reached agreement on the introduction of oral systemic corticosteroids to treat inflammation. Although there was no apparent spontaneous purulent discharge, the lacrimal sac's distension was becoming more and more consistent with a cutaneous abscess. Methicillin-resistant *Staphylococcus aureus* (MRSA) screening, blood cultures, and bacteriological swabs of the eye discharge all came back negative. Nevertheless, surgical drainage and nasolacrimal pathway probing were taken into consideration in light of this clinical worsening. When EBV serology was performed at this stage, the results showed that the antibodies (immunoglobulines G and M) were extremely increased and consistent with an acute infection. We came to the conclusion that a right dacryocystitis caused by an EBV primary infection was made worse by preseptal ipsilateral cellulitis and adenoid hypertrophy. Additionally, the numerous bilateral cervical adenopathies were consistent with this illness. The choice to continue conservative treatment was driven by the great overall health of our patient as well as the gradual but positive evolution. Although digital ocular massages were used, the interior canthus of the eye could only somewhat drain as a result. Intranasal corticoids were first used to treat adenoid enlargement and persistent nasal blockage. The patient's morbilliform rash on day 8 of the antibiotic regimen prompted the change from oral co-amoxiclav 80 mg/kg/day in three doses to oral clindamycin 30 mg/kg/day in four doses for an additional 13 days (total treatment duration of 21 days). Although evolution was sluggish, improvements were seen throughout time. After a week in the hospital, our patient was released because surgical drainage was avoided.

Discussion and Result

Following inoculation, the EBV replicates in the tonsils, adenoids, and nasal mucosae before quickly spreading to surrounding lymphoid tissues. Due to the tiny nasolacrimal architecture in children, an acute obstruction of the nasolacrimal duct can result from an acute inflammation that causes nasal mucosal congestion. Because of this, tears tend to build up in the lacrimal sac instead of being [6-10] adequately evacuated through the Hasner valve. Whatever the cause, stagnation of secretions can lead to subsequent infections with respiratory bacteria (most frequently *Streptococcus pneumoniae*, *Haemophilus influenzae*, or *Staphylococcus aureus*). Clinically, the infection may spread to nearby tissues and cause increased discomfort and soreness. Because of this, systemic and topical antibiotic therapy is advised as the first line of treatment for acute dacryocystitis. In addition, anti-inflammatory medications like ibuprofen and corticosteroids can be used to lessen tissue swelling and promote natural tear drainage and evacuation. It's vital to remember that dacryoliths, mucus plugs, blood clots, foreign bodies, mucosal stenosis, and bacterial infections with empyema can also result in acute lacrimal retention. Recognizing EBV as the cause of dacryocystitis and distinguishing it from acute lacrimal retention of another origin or an abscess represent the main challenges. To select the best course of treatment, an accurate diagnosis must be made. The most frequent causes of periorbital cellulitis in children requiring emergency care are localised eyelid abscesses or ethmoiditis,

which present clinically very much like early dacryocystitis. They ought to be taken into account while making a differential diagnosis and choosing a course of treatment. In this example, regurgitation on the pressure over lacrimal sac (ROPLAS) test could have been performed because to the usual localisation that was obvious as early as day 2. This might have prevented the patient from needing a scan and helped us diagnose acute dacryocystitis. The nasolacrimal duct was extremely clogged and nearly blocked, making palpation uncomfortable and challenging. As a result, a proper regurgitation was unlikely to be acquired. Invasive treatment for children dacryocystitis is debatable, in contrast to abscesses brought on by sinusitis or eyelid infections that frequently necessitate surgery. It is only used for children who come with congenital nasolacrimal duct obstruction or for chronic, persistent dacryocystitis, which is not the case [9] in EBV-related instances. If a nearby abscess complicates dacryocystitis, percutaneous puncture and drainage is advised. The possibility of subsequent stenosis makes nasolacrimal probing, intubation, or stenting generally discouraged in the acute phase. Other invasive treatments exist but are often only used on adults, such as balloon dacryoplasty, percutaneous dacryocystorhinostomy, or endonasal dacryocystorhinostomy. There are no established therapy recommendations for acute dacryocystitis linked to mononucleosis. The primary objectives are to clear the lacrimal sac and avoid any potential infections. The preferred method among professionals appears to be conservative management (digital massages, intravenous antibiotic therapy, and topical antibiotics with or without systemic corticoids).

Conclusion

Acute dacryocystitis is incredibly uncommon in children. One should always expect a primary EBV infection and do the required screening tests if there is no history of congenital blockage of the nasolacrimal duct. Less than 20 instances have been reported in the literature, but all indicate that uncomplicated acute EBV-induced dacryocystitis has a good prognosis when treated conservatively. Once the infection is under control, the symptoms typically go away on their own, leaving no lasting nasolacrimal dysfunction. Fluorescein permeability tests and lacrimal irrigation have both been used to support this in the past.

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Declaration of Conflicting Interests

No potential conflicts of interest were disclosed by the author(s) with regard to the research, writing, or publication of this paper.

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