CASE REPORT

PRESEPTAL CELLULITIS DUE TO IMPETIGO – A CASE REPORT OF UNCOMMON PRESENTATION IN PAKISTAN

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Preseptal cellulitis is the skin and soft-tissue infection of the periorbital region, especially in paediatric patients. We report a case of a 7-year-old girl with impetigo-associated preseptal cellulitis, presenting with left upper eyelid swelling, purulent discharge and crusted skin lesions. The patient was treated conservatively with a team of ophthalmologists and dermatologists. There is a lack of documentation that preseptal cellulitis can be caused by Impetigo; a highly infectious skin disease. In the paediatric population, it is important to keep in mind the uncommon causes of preseptal cellulitis. A multidisciplinary care approach is necessary to treat the underlying etiological cause in the management and for favourable outcomes.

Keywords: Impetigo, Paediatrics; Periorbital cellulitis; Preseptal cellulitis

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INTRODUCTION

Impetigo is a bacterial infectious disease in children. In an observational study done in Hyderabad, Pakistan, 55.98% of the patients were above 5 years (out of a total of 518) and Impetigo was found to be the 3rd (11.39%) most common cause in these children.[1] It is diagnosed on a clinical basis with distinct honey-coloured, crusted lesions, while some patients may present with fever, lymphadenopathy and rarely cellulitis.[2] It is necessary to identify its uncommon or atypical presentations. Preseptal cellulitis is the soft-tissue inflammation of the orbit, anterior to the orbital septum which may spread posteriorly causing orbital cellulitis, a serious complication. Para-nasal sinus diseases in younger age group patients can more commonly present with orbital complications, varying from preseptal cellulitis and subperiosteal abscess to cavernous sinus thrombosis.[3] The purpose of this case report is to illustrate the importance of an inter-professional team approach to prevent delay in diagnosis and management of an uncommon underlying cause of preseptal cellulitis due to impetigo.

CASE REPORT

A 7-year-old female child presented in ophthalmology OPD with 2 days history of yellowish discharge, mild crusting and marked swelling of the left upper eyelid. It was associated with high-grade fever (102 °F) and mild flu like symptoms. There was no history of trauma, insect bite, and previous surgical or dental procedure. On examination, the patient was febrile but well-oriented. Her best corrected visual acuity was 6/6 in the right eye and 6/12 left eye. She had left preseptal cellulitis, upper lid mechanical ptosis with a clear visual axis and a small crusted lesion on the left upper eyelid margin. She also had ipsilateral pre-auricular lymphadenopathy. A slit lamp examination showed left-sided mild conjunctival congestion, however, the rest of the anterior and posterior segments was unremarkable in both eyes. Bilateral pupils were normally reacting. The regurgitation test was negative. Extraocular movements were full and not painful. An ENT consult was done to rule out sinusitis. The patient was prescribed moxifloxacin eye drops 4 times a day, oral co-amoxiclav and ibuprofen syrups. One day later she also developed crusted lesions on the right upper eyelid and upper lip. On follow-up after 3 days, the eyelid swelling reduced but crusting was more widespread involving the whole of the left eyelid [Figure-1]. Her younger sister developed a similar lesion on her hand and scalp. A dermatology consult was done and the patient was diagnosed with Impetigo as a possible aetiology for her ocular symptoms. She was advised topical ointment Fusidic acid-hydrocortisone application twice daily, oral anti-allergic Cetirizine and oral antibiotics were continued for a week. Since the patient had inflammation associated with skin lesions, the dermatologist advised a combination of steroids and antibiotics instead of only antibiotics. The patient recovered with complete resolution of the preseptal cellulitis and skin lesions within 10 days of initial symptoms without further complications.

Figure-1: Initial and resolving stages of Preseptal cellulitis due to Impetigo.

DISCUSSION

In developing countries, impetigo is a contagious skin disease of childhood with non-bullous form (70%) caused by gram-positive bacteria staphylococcal aureus and streptococcus pyogenes. In the paediatric population, it is found to be 3rd most common disease.[2] It usually presents with characteristic vesicles progressing to pustules and yellow crusts with itching and maybe painful. However, impetigo presenting as preseptal cellulitis by pathogen inoculation in the periorbital tissues is rarely documented.

Preseptal cellulitis is a skin infection around the eye, in front of the orbital septum. The major predisposing factors are sinusitis, dental abscess, and ocular infections, while focal lesions on the face or near orbit include impetigo, herpes simplex and herpes zoster skin lesions. Amongst infectious aetiology of preseptal cellulitis due to impetigo is only 5%.[4] In Pakistan, a cross-sectional analytical study was conducted at the Khyber Institute of Ophthalmic Medical Sciences, Peshawar from July 2003 to December 2006. It determined that out of 26 patients, 42.30% of patients in Group I were ages 6-16 years old. They had insect bite as the most common risk factor, identified in 40% of patients with preseptal cellulitis. The other risk factors included were trauma, localized or systemic infection and post-surgical.[5]

Most patients complain of unilateral eyelid swelling, pain, redness, fever and general malaise occurring in both preseptal and orbital cellulitis. The main clinical signs are conjunctival hyperaemia (78%) in preseptal cellulitis, while proptosis (64%) and chemosis (35.8%) occur in orbital cellulitis.[6] Some para-nasal sinus infections may cause common symptoms of orbital involvement such as proptosis, diplopia, ophthalmoplegia, visual loss and ptosis.[7] Hence, it is important to rule out a more serious condition orbital cellulitis, which can lead to decreased visual acuity, relative afferent pupillary defect (RAPD), reduced colour saturation and restricted painful extraocular movements.

Investigations suggested are complete blood count for leucocytosis. C-reactive protein raised >120mg/L and CT-scan is advisable if severe periorbital oedema precludes eye examination and orbital cellulitis is suspected when no response to antibiotic therapy or with orbital complications.[8] In our patient orbital cellulitis was clinically ruled out hence blood and radiological investigations were not needed. Additionally, CT-scan is costly and has high radiation.[9]

A patient with more than one-year-old with mild symptoms is treated as an outpatient with oral antibiotics amoxicillin-clavulanic acid, and third-generation cephalosporin for five to seven days or longer if cellulitis persists. Frequent visits are required to monitor progress. While those with severe symptoms or less than one year of age should be admitted to the hospital for broad-spectrum antibiotics and a CT scan.[10] These patients should be treated by a multispecialty team, ophthalmologist, paediatrician and ENT. In cases of maxillary and frontal sinusitis causing early preseptal cellulitis, conservative treatment with antibiotics may resolve the condition completely.[3]

In our case report, since the patient developed multiple lesions on the face and her younger infant sister also developed skin lesions, with the suspicion of a contagious disease, a dermatologist was taken on board. Topical treatment of fusidic acid, mupirocin, ozenoxacin for 5–7 days or until complete resolution is recommended in lesions confined to an area not exceeding 2% of total body surface area.[11] Fusidic acid is a tetracyclic triterpenoid indicated in the preorbital area. Ozenoxacin 1% cream is a prescription topical antibiotic, more recently approved in the United States,[12] and Europe[13] suggested as an effective and safe treatment for impetigo in paediatric patients ≥2 months to <18 years and ≥6 months respectively. Patients should be kept at home and good hygiene is recommended to prevent the spread of infection.[10]

CONCLUSION

The history and physical examination are essential in the evaluation for uncommon or unusual cases of periorbital cellulitis. Once diagnosed, preseptal cellulitis prognosis is usually good. The patient in our case report had a positive outcome, highlighting the need for multidisciplinary care and treatment accordingly.

Informed consent: Taken from the patient and guardian for publication of the case report and relevant images.

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