

Pediatric Subperiosteal Abscess

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Learning Objectives:

Millions of patients are diagnosed with sinusitis annually. While many are treated with antibiotics, uncomplicated sinusitis usually resolves without medical intervention. Presented today is a case of a 10-year old Caucasian female diagnosed with a 14x5mm subperiosteal abscess secondary to an episode of long-standing sinusitis.

Case Summary:

10-year old Caucasian female with a PMHx of asthma, presents with right eye swelling for three days. Four days PTA, patient developed sinus congestion and headache, responsive with Advil. The headache worsened by the next morning, and patient had associated vomiting, so her father took her to an urgent care. Right eye was swollen and it was believed to be secondary to a sinusitis; patient was prescribed amoxicillin-clavulanate. Symptoms did not improve, and the next morning, she began to complain of pain in the right eyelid. The Pediatrician administered two doses of ceftriaxone, however, symptoms continued to progress. On the day of admission, patient presented to the emergency department with unrelenting headache and an inability to open her right eye at all. CT Sinuses with contrast demonstrated a 14x5mm subperiosteal abscess in the right orbit alongside a right periorbital cellulitis. Because of the challenging location, ENT could not drain endoscopically. Ophthalmology was consulted and recommended close monitoring for improvement of symptoms on IV antibiotics, anticipating resolution with antibiotics alone. Also considered was possible transfer to a facility with oculoplastic surgery if no improvement with antibiotics was appreciated. Patient was started on ampicillin-sulbactam 200 mg/kg/day divided every 6 hrs and clindamycin 40 mg/kg/day divided every 8 hrs. Patient was improving daily with significantly reduced swelling in the right eyelid, renewed ability to open the right eye slightly, and increased energy. On hospital day four, patient's right eyelid, while no longer erythematous or painful, could not be opened more than halfway without assistance. Repeat CT sinuses, again, demonstrated the 14x5mm subperiosteal abscess, and the patient was transferred to an outside facility for higher level of care. Oculoplastic surgery recommended increasing the dose of ampicillin-sulbactam dosage from 200 mg/kg/day to 300 mg/kg/day before considering surgery. Patient improved and did not require surgery and was discharged with amoxicillin-clavulanate and close follow up with ophthalmology.

Conclusions:

While millions of patients are diagnosed with sinusitis annually, with a clear majority of those cases being in the pediatric population, it is critical to rule out catastrophic sequelae that can result from seeding of infection through the facial bones into the orbits, which in turn, can lead to unilateral blindness. Extension of orbital infections can also lead to cavernous sinus thrombosis. Troubling ocular symptoms must be ruled out to prevent the development of a more insidious, yet preventable process.