

Clinical Image

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Frontal swelling of the forehead in a teenager

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Abbreviations: CT: Computed Tomography; ETN: Ear, Nose and Throat.

Case description

A 16-year-old male was admitted to the pediatric emergency department with headache, frontal swelling and fever. Physical examination revealed a prominent frontal swelling, painful on palpation. Analytical evaluation showed a rise in inflammatory markers (leukocytes 15100 cells/ μ L, 84.3% neutrophils and C-reactive protein 17.19 mg/dL). Computed Tomography (CT) of the cranium and the paranasal sinuses confirmed pansinusitis, without bone impairment nor intracranial complications. He was treated with ceftriaxone and clindamycin and was daily assessed by ETN. On day 3, preseptal cellulitis was noted. Upon clinical worsening on day 8 (Figures 1 and 2), with no neurological repercussion, a new CT scan was performed and documented osteomyelitis of the frontal bone, associated with subperiosteal abscess (Figure 3). The patient underwent endoscopic sinus surgery and antibiotic coverage was widened, initiating vancomycin. Blood cultures and cultural exam of the surgically drained pus were sterile. After 21 days of antibiotic therapy, he was discharged with favorable evolution.

Pott's puffy tumor is a subperiosteal abscess with osteomyelitis of the frontal bone [1,2]. Since the advent of modern antibiotic therapy, it is a rare complication of frontal sinusitis, but can also occur due to head trauma or surgery [1-3].

There is a higher incidence among teenagers since the frontal sinuses are not completely developed until adolescence and the flow rate of the venous drainage, through the diploic veins, increases during this period [2,4]. Typical presentation includes forehead swelling, headache, fever, purulent rhinorrhea and occasional preseptal cellulitis. Aggravating symptoms, such as altered mental status, lethargy, vomiting or seizures, should prompt suspicion of intracranial involvement [2,4,5].

The rarity of Pott's puffy tumor may be the cause of delayed diagnosis. However, it is imperative to initiate broad-spectrum antibiotic therapy immediately, followed by surgical intervention to prevent long-term neurologic complications, morbidity and mortality [1-3,5].



Figure 1: Patient showing clinical worsening with reemerging forehead swelling (day 8).



Figure 2: Patient showing clinical worsening with reemerging forehead swelling, profile view (day 8).



Figure 3: Cranial CT, without contrast, sagittal cut, evidencing frontal sinusitis with erosion of the outer table of the right frontal sinus. Note the forehead edema.

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