

Puff laddy: a 5-year-old-boy with forehead swelling

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DESCRIPTION

A 5-year-old boy presented with forehead swelling in the setting of a recent sinus infection. His initial symptoms were fever and nasal congestion for which he was prescribed a 10-day course of antibiotics, completed 3 days prior to admission. He subsequently developed unsteady gait, photophobia, headache, vomiting and progressive forehead swelling. He was noted to have central forehead oedema and tenderness without overlying erythema (figure 1). There were no neurological or ophthalmological deficits. Magnetic Resonance Imaging (MRI)/Magnetic Resonance Venography (MRV) of the head demonstrated a 3.5×1.2×3.9 cm subgaleal abscess with communication to the frontal sinuses as well as osteomyelitis of the frontal bone (figure 2). The patient underwent surgical drainage of the abscess with evacuation of purulent fluid (figure 3). Culture from the procedure grew *Streptococcus anginosus*. He clinically improved following surgery and was transitioned home to complete a 21-day total course of antibiotics.

The patient's history, examination and imaging were consistent with Pott's puffy tumour, which is characterised by subperiosteal abscess of the frontal bone with associated osteomyelitis. It most commonly affects adolescents and typically follows frontal sinusitis or trauma. Younger children, as in our case, are less commonly



Figure 2 Sagittal T1-weighted MRI demonstrating subgaleal abscess communicating with frontal sinus and frontal bone osteomyelitis.

affected as frontal sinuses do not typically develop until later school age.¹ Common bacteria associated with this entity include typical sinus pathogens, including *Streptococcus* species, *Staphylococcus* species and *Haemophilus influenzae*.^{1 2} Current management recommendations for acute bacterial sinusitis include treatment with amoxicillin with or without clavulanate.³ Data are limited regarding adjuvant therapies such as topical nasal decongestants, but these therapies may also be considered in the treatment of acute bacterial sinusitis. There are a number of serious complications associated with Pott's puffy tumour, including subdural empyema, brain/epidural abscess and venous sinus thrombosis. Treatment requires prompt diagnosis and



Figure 1 Profile of patient with forehead swelling at admission.



Figure 3 Purulent material expressed during surgical drainage.



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Learning points

- Forehead swelling in a child with sinus symptoms should be considered due to Pott's puffy tumour until proven otherwise.
- Pott's puffy tumour requires prompt treatment, including surgical drainage and antibiotics covering sinus pathogens, to avoid serious complications.

management, including surgical debridement and intravenous antibiotics.

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