

IMAGES IN EMERGENCY MEDICINE

Infectious Disease

Girl with a frontal headache and fever

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Email: weilbert@uic.edu**KEYWORDS**

frontal sinusitis, Pott puffy tumor, Pott's puffy tumor

1 | PATIENT PRESENTATION

An 8-year-old girl presented to the emergency department complaining of a right frontal headache with fevers as high as 101.3°F (38.5°C) for 2 days. The headache had begun after striking her right forehead during an accidental fall. She reported a week of rhinorrhea preceding the forehead trauma. On examination, she had erythema and edema with tenderness of the right forehead and periorbital area (Figure 1). Computed tomography (CT) of her head with and without intravenous contrast was obtained (Figures 2 and 3).

2 | DIAGNOSIS

2.1 | Pott's puffy tumor

Pott's puffy tumor (PPT) is defined as soft tissue swelling of the forehead due to subperiosteal edema, granulation tissue, or accumulation of pus.¹ Considered rare in the antibiotic era, there has been an increase in reported cases in the last 20 years.² PPT can affect all age groups but occurs predominantly in adolescence.³ PPT is most commonly a complication of sinusitis but may also be the result of forehead trauma.² Most patients present with forehead swelling and a frontal headache, often with fever.² Approximately one quarter of patients will have orbital involvement.^{2,4} Intracranial manifestations including epidural abscess and subdural empyema occur in approximately 40%.²

Soft tissue inflammation from associated trauma, simple acute sinusitis, and preseptal and orbital cellulitis may all present with



FIGURE 1 Erythema and edema of the right forehead and periorbital area.

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FIGURE 2 Computed tomography of the head without contrast showing right frontal sinusitis (arrow).

findings similar to PPT. The presence of fever, “doughy” edema of the forehead, and characteristic CT findings are key to differentiate PPT from these other entities. CT is considered the imaging modality of choice to confirm the diagnosis of PPT, with magnetic resonance imaging preferred to detect intracranial involvement.³ PPT is treated with antibiotic therapy to cover a polymicrobial infection, including anaerobes, and the vast majority of cases will require concomitant surgical intervention.^{2,4}

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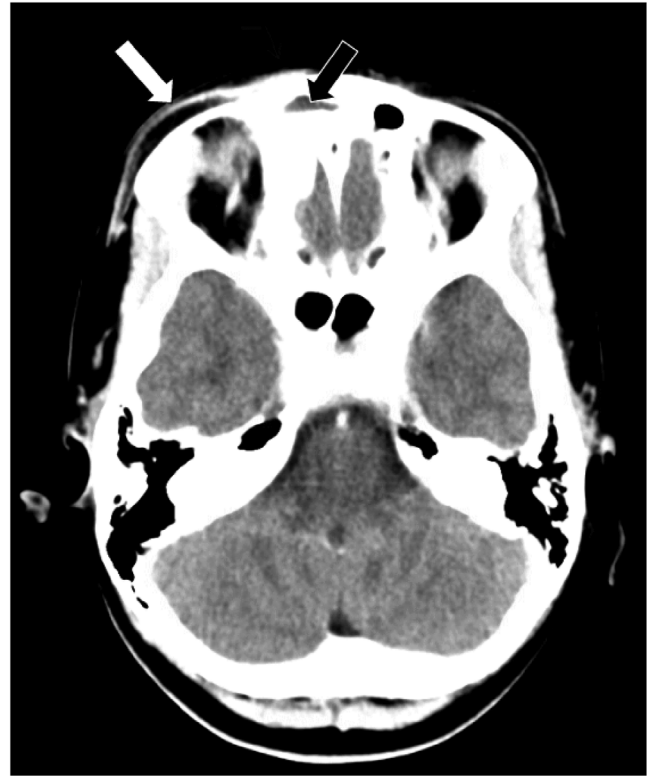


FIGURE 3 Computed tomography of the head with contrast showing right frontal sinusitis (black arrow) with overlying soft tissue inflammation (white arrow).

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