A huge Pott's puffy tumour secondary to pansinusitis

Keli Dusu,¹ Deepak Chandrasekharan,² Chadwan Al Yaghchi,³ Robert Quiney²

¹Head and Neck Surgery, University College London Hospitals NHS Foundation Trust, London, UK

²ENT, Royal National Throat Nose and Ear Hospital, London, UK

³ENT, Charing Cross Hospital, London, UK

Correspondence to

Dr Keli Dusu, kfdusu@hotmail.com

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DESCRIPTION

A 36-year-old man presented with a 2-week history of a progressive forehead swelling and a frontal headache. He had no visual or neurological symptoms and there was no history of trauma. However, he reported a 4-week history of nasal obstruction with purulent nasal discharge.

On examination, there was a 15x6 cm erythematous, fluctuant forehead swelling. Naso-endoscopy demonstrated purulent discharge bilaterally from the middle meati. A CT scan of the brain and paranasal sinuses demonstrated acute pansinusitis, osteomyelitis of the frontal bone with an associated subperiosteal abscess and an extradural abscess (figures 1 and 2). This is known as a Pott's puffy tumour, named after Sir Percival Pott and is a rare complication of frontal sinusitis.¹

The patient underwent emergency endoscopic drainage of the sinuses and drainage of the frontal abscess via an external left eyebrow incision. Two hundred millilitres of pus was drained. He completed a 4-week course of intravenous ceftriaxone, 2 g once a day, and saline nasal irrigation three times a day. This was administered alongside a 2-week course of betamethasone sodium phosphate nasal drops, two drops twice a day in both nostrils. Serial post-operative CT imaging after 7, 12 and 20 days demonstrated resolution of the frontal abscess and an improvement of the extradural abscess.

Pott's puffy tumour occurs as a result of infection spreading via the venous drainage of the

Figure 2 Sagittal CT demonstrating the large subperiosteal abscess of the frontal bone and the extradural abscess.

frontal sinus or from direct extension of the infection through the bone, resulting in osteomyelitis of the frontal bone and formation of subperiosteal abscesses.² It is more commonly associated with the adolescent age group and is rarely seen in adults.³ Pott's puffy tumour is a risk factor for intracranial complications such as extradural abscess, subdural empyema and intracerebral abscess. These sequelae

Figure 1 Axial CT demonstrating the large subperiosteal abscess of the frontal bone and the extradural abscess.

Patient's perspective

I cannot commend the hospital highly enough for the swift and thorough care that I received, thank you!

Learning points

- ▶ Pott's puffy tumour is a rare complication of frontal sinusitis.
- ▶ Pott's puffy tumour is a significant risk factor for a range of intracranial complication secondary to thrombophlebitis of valveless diploic veins or direct spread from osteomyelitis of the posterior wall of the frontal sinus.
- ▶ Once a diagnosis of Pott's puffy tumour is suspected, prompt and serial cross-sectional imaging (CT or MRI) should be performed to evaluate for intracranial complications which may be asymptomatic.

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have been observed in 60%–85% of patients with Pott's puffy tumour.^{4 5} Moreover, intracranial complications are often asymptomatic in the early stages, particularly when the abscess is localised in an area of the cortex where overt neurological signs are minimal.⁶ Pott's puffy tumour usually requires prompt surgical drainage in addition to prolonged antibiotic therapy. The goal of surgery is to drain the sinus, remove infected bone or granulation tissue and ventilate the frontal sinus.⁷ An external fronto-ethmoidectomy has been performed historically, however with advancement in technology, intranasal endoscopic sinus surgery in addition to percutaneous drainage has been performed with positive results.⁶

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