

SHORT COMMUNICATION

Bronchogenic metastasis involving the frontal sinus and masquerading as a Pott's puffy tumour: a diagnostic pitfall

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SUMMARY. A case is reported of metastatic bronchogenic carcinoma involving the frontal sinus and masquerading as a Pott's puffy tumour. A pathological fracture and persistent lung radiographic changes prompted fine needle aspiration of the mass, which showed a poorly differentiated adenocarcinoma.

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INTRODUCTION

In 1760, Sir Percival Pott described "A puffy, circumscribed, indolent tumour of the scalp, and a spontaneous separation of the pericranium from the skull".¹ We now reserve the term Pott's puffy tumour for frontal sinusitis causing osteomyelitis of the frontal bone. We present a case of clinical osteomyelitis of the frontal sinus confirmed by radiograph and microbiological aspiration, which turned out to be a metastatic lung carcinoma involving the frontal sinus.

CASE REPORT

A 79-year-old white woman presented with a 3-month history of mid-forehead pain and tenderness associated with a warm red swelling over her central forehead of 1 month's duration (Fig. 1). She also complained of blurred vision in the left eye and foul nasal discharge during the same period.

Examination showed an erythematous 5 cm hemispherical swelling in the mid-frontal region, which on aspiration yielded pus. She also had bilateral level 2 lymph nodes. Flexible nasoendoscopy showed pus in the right middle meatus. There were also signs of a right-sided chest infection with radiographic shadowing in the right upper lung field.

The white cell count was $16.7 \times 10^9 l^{-1}$ and microscopy of the aspirate showed polymorphs and Gram-positive cocci. *Staphylococcus aureus* was isolated in culture and was sensitive to flucloxacillin. Plain sinus views confirmed opaque frontal sinuses with a thin and eroded frontal wall (Fig. 2). Nothing further was shown by a computed tomogram, which was hindered by the patient's kyphoscoliosis and only poor views were obtained.



Fig. 1 Side view of patient revealing central forehead swelling.

A diagnosis of Pott's puffy tumour was made, with associated reactive level 2 lymph nodes. Frontoethmoidectomy was planned soon after admission, but the patient was found to be unfit for a general anaesthetic and so a conservative management was initiated in collaboration with the infectious disease team. We gave flucloxacillin intravenously and fucidic acid by mouth. For the following 4 weeks, the mass was aspirated daily, initially with success and then it became dry. There was no clinical improvement.

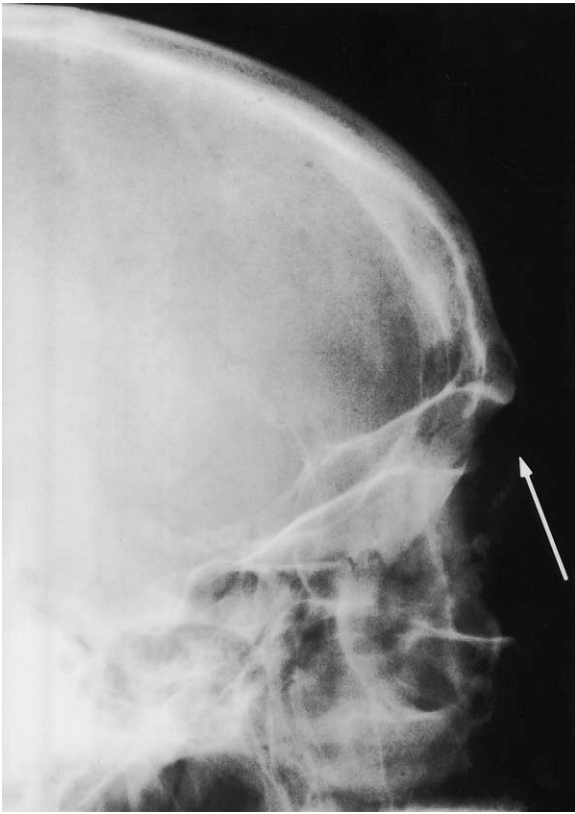


Fig. 2 Radiograph lateral view of skull, revealing eroded anterior wall to frontal sinus.

During the third week in hospital she developed pain on movement in the right shoulder and investigation showed a pathological fracture of the right scapula. The chest physicians noted that the right apical and hilar shadowing that had been seen initially was persistent on chest radiograph. A fine needle aspirate of the frontal mass showed poorly differentiated adenocarcinoma and a clinical diagnosis of apical bronchogenic carcinoma with frontal and scapular metastases was made. She was referred to the Royal Marsden Hospital, London, for palliative radiotherapy.

DISCUSSION

Metastases in the frontal sinuses are extremely rare. Clear cell renal carcinoma is the most common primary^{2,3} and primary lung cancer has not been reported. The case reported by Toomey and Frazer was similar to ours.² The patient had a frontal erythematous mass, histology of which showed an adenocarcinoma. A primary in the large bowel was subsequently discovered.

Primary carcinoma of the frontal sinus is also considered rare. In a review Brownson and Ogura found 134 cases reported,⁴ 90% of which were epidermoid and adenocarcinoma accounting for less than 10%. However, 90% of all cases had swelling over the frontal sinus, which was fluctuant in 27% and tender in 18%.

ACKNOWLEDGEMENT

We thank Dr P. Wilson, Histopathologist St George's Hospital, Tooting, London, for the histological report.

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Accepted 18 February 2002