Intracranial air on plain films of the face—one sign not to miss!

A 27-year-old man presented to the emergency department after he was alleged to have had his face and head stamped on. On arrival, he had a Glasgow Coma Score of 15 and no indication at that time for a CT scan of the head.

Facial radiographs demonstrated bilateral facial fractures with a LeFort II injury pattern. A left ‘eyebrow sign’ (wide arrow figure 1) was noted in keeping with an orbital blowout fracture.

The following day, his facial x-rays were reviewed and it was noted that there was intracranial air (thin arrow figure 1), not initially identified, and a diagnosis of pneumocephalus was made. An urgent CT scan demonstrated a fracture of the posterior wall of the left frontal sinus and extensive intracranial air overlying the frontal lobes (figure 2).

The patient had conservative management of the pneumocephalus and fixation of his facial fractures.

While most cases of traumatic pneumocephalus are managed conservatively, all such patients should be given pneumococcal vaccine because of the risk of meningitis.1

This case highlights the importance of recognising pneumocephalus on plain films of the face, as often patients with facial injuries may not have any indication for a CT scan of the head, and the diagnosis missed.

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Contributors The case in question was managed initially by the principal author AG under the admitting consultant GLAC. GLAC provided senior review of the patient on the night of admission, and then on the following day as part of the head injury team. The report was written by AG including a literature review. The first and final drafts were reviewed and amended by GLAC (guarantor).

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