CLINICAL SNAPSHOT

Tension Pneumocephalus Due to an Osteoma of the Frontal Sinus

A 24-year-old man presented at the emergency department complaining of left arm weakness, headache, and difficulty concentrating, of 5 days' duration. On examination, he was awake and cooperative, with predominantly distal left arm weakness. Cranial nerve function was intact. The intrinsic muscle reflexes were more pronounced on the left.

Computerized tomography (CT) without contrast medium and magnetic resonance imaging (MRI) of the head revealed an intraparenchymal collection of air in the right frontal lobe compressing the brain. The cause was an ossifying process in the frontal sinus that had eroded through the posterior wall of the sinus and the underlying dura mater. A one-way valve mechanism had led to the extensive intraparenchymal air collection (tension pneumocephalus). The collection was surgically drained via a burr hole, and the patient's hemiparesis regressed. Later on in the patient's course, the tumor was resected, and the skull base and dura mater were reconstructed. Histopathological

examination revealed a benign ossifying tumor (sinonasal osteoma). Osteomas of the frontal sinus usually remain asymptomatic as long as they do not block the outflow passages. In very rare cases, they involve the dura mater, leading to cerebrospinal fluid leakage or pneumocephalus.

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