

Pan-pneumatocoele of Paranasal Sinuses: A Rare Entity

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Abstract

Keywords

- ▶ paranasal sinus
- ▶ pneumatocoele
- ▶ headache

Excessive enlargement of the paranasal sinuses is a rare entity with an uncertain etiology. It usually affects the frontal sinus, although any sinus can be pathologically enlarged. Authors describe a case with enlargement of all paranasal sinuses (pan-pneumatocoele). To date, this is the first reported case of pan-pneumatocoele of paranasal sinuses in the literature.

Case Report

A 28-year-old woman presented to our department with intermittent episodes of moderate headache. The pain was not accompanied by facial swelling. It was also not related to head position. No palpable or visually evident anatomic deformity was noted. Neurologic examination was normal. Computed tomography (CT) of the head was done, which revealed that all the paranasal sinuses were excessively enlarged and well connected to each other with presence of bony erosion. No other abnormality was found. To date, this

is the first reported case of pan-pneumatocoele of paranasal sinuses in literature.

Excessive enlargement of the paranasal sinuses is a rare entity with an uncertain etiology. It usually affects the frontal sinus, although any sinus can be pathologically enlarged. Terms such as pneumosinus dilatans, pneumatocoele,¹ hyperpneumatization, sinus ectasia, sinus hypertrophy, and arocoele have been used in the literature to describe a hyperpneumatized paranasal sinus. Urken et al² classified sinus hyperpneumatization into three types. Hypersinus refers to an enlargement of a well-aerated

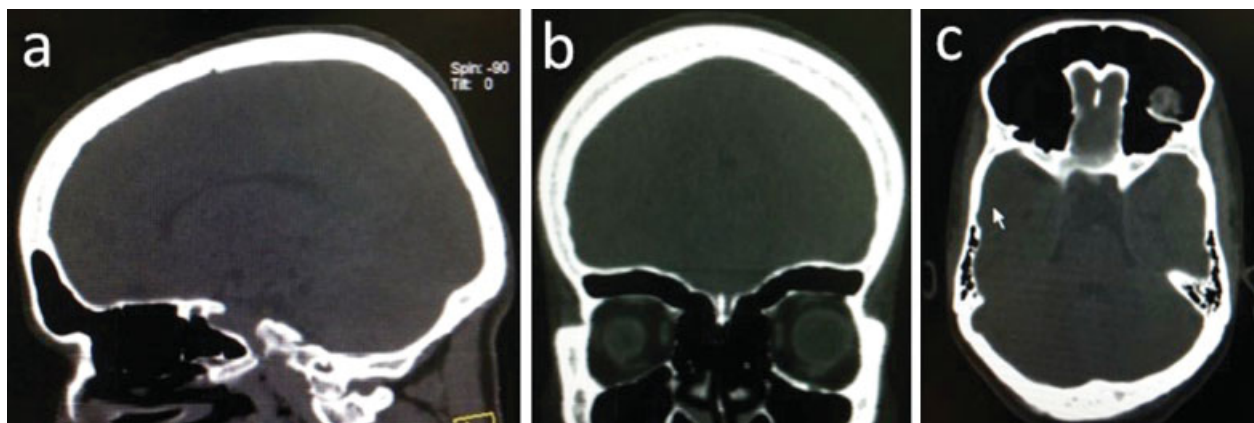


Fig. 1 Sagittal (a), coronal (b), and axial (c) views of CT of the head showing enlargement of all paranasal sinuses (frontal, ethmoid, maxillary, and sphenoid) along with bone erosion (pan-pneumatocoele).

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frontal sinus, which develops within the normal boundaries of the frontal bone. Pneumosinus dilatans differs from hypersinus because the sinus abnormally extends either anteriorly, causing frontal bossing, or posteriorly and laterally, displacing the adjacent anatomic structures, such as the ophthalmic bulb and the frontal lobe. A pneumatocele, the third type of hyperpneumatization, is characterized by focal erosion or generalized thinning of the bony walls, whereas in the first two types the sinus walls are normal. Although this classification was developed for the description of frontal sinus anatomic variations, it has been used in the literature for all paranasal sinuses. According to this classification, the present case is described as "pneumatocele of paranasal sinus" (►Fig. 1).

Hyperaeration itself may play a role in the development of headache symptoms, either by affecting the mucociliary clearance or due to disturbance of ventilation, which in turn causes vacuum headache.³

Conflict of Interest

None.

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