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Figure. (A) Enlarged, air-filled ethmoid sinus extending into an isointense intracranial mass on T1-weighted MRI, which enhances uniformly on contrast agent administration (B). (C) Axial CT shows expansion of sinus beyond its normal boundaries into the meningeoma, where the plate of bone lining the pneumosinus dilatans is preserved.

Meningioma with pneumosinus dilatans

Anne Mai, MD; John Karis, MD; and
Kumaraswamy Sivakumar, MD

A 67-year-old woman presented with an episode of confusion. A complex partial seizure was suspected. Pneumosinus dilatans

(PSD) associated with a cribriform plate meningeoma was found on MRI (figure). Histology revealed a meningothelial meningeoma.

An abnormally expanded, air-filled paranasal sinus best describes PSD. It can be associated with meningiomas or arachnoid cysts. The detection of a PSD is useful in identifying a cerebral mass as a meningeoma, especially when it appears intrinsic to the brain.¹ The presence of sphenoid PSD in patients with blindness helped identify optic nerve sheath meningiomas in the era when CT and MRI were not available.²

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Meningioma with pneumosinus dilatans

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