Teaching *NeuroImages*: Pneumocephalus due to bacterial meningitis

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A 51-year-old man presented with headache and confusion. On examination, he was somnolent with meningeal signs. Cranial CT scan demonstrated diffuse intracranial air (figure). CSF revealed white blood cell count of 11,850 cells/mm³. Gram stain showed Gram-negative rods. No organisms were detected on CSF culture, probably due to the use of antibiotics for pneumonia. He died shortly afterwards.

Pneumocephalus is usually caused by trauma or surgery.¹ Bacterial meningitis is a rare cause of pneumocephalus. The majority of patients do not survive.²

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Figure

Nonenhanced cranial CT scan showing multiple diffuse air pockets in the subarachnoid space, parenchyma, and ventricles in a patient with meningitis due to Gram-negative rods

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