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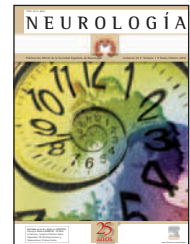


IMAGE OF THE MONTH

Pneumocephalus and pneumococcal meningitis secondary to a cerebrospinal fluid fistula

Neumoencéfalo y meningitis neumocócica secundarios a fístula de líquido cefalorraquídeo

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We present the case of a 35-year-old female who was admitted with headache, mental confusion and vomiting over a 24-hour period. As for personal history, we can highlight that she had been diagnosed with an uncomplicated left frontobasal arachnoid cyst 10 years previously. During her second pregnancy, she presented fluid rhinorrhoea and was diagnosed with a cerebrospinal fluid (CSF) fistula, although she did not need neurosurgical treatment as the fistula closed up on its own. Since then she has had no symptoms, only reporting anosmia and hypogeusia.

A cranial CT scan was performed on admission. It showed an extensive pneumocephalus, with an area of left frontobasal encephalomalacia (figs. 1 and 2) and a CSF fistula through the cribriform plate of the ethmoid bone (fig. 3).

The CSF study also showed pneumococcal meningitis, which was resolved with antibiotic treatment and produced no sequelae.

The Magnetic Resonance Scan showed only a spread of CSF towards the ethmoid sinus. A new CT scan was carried

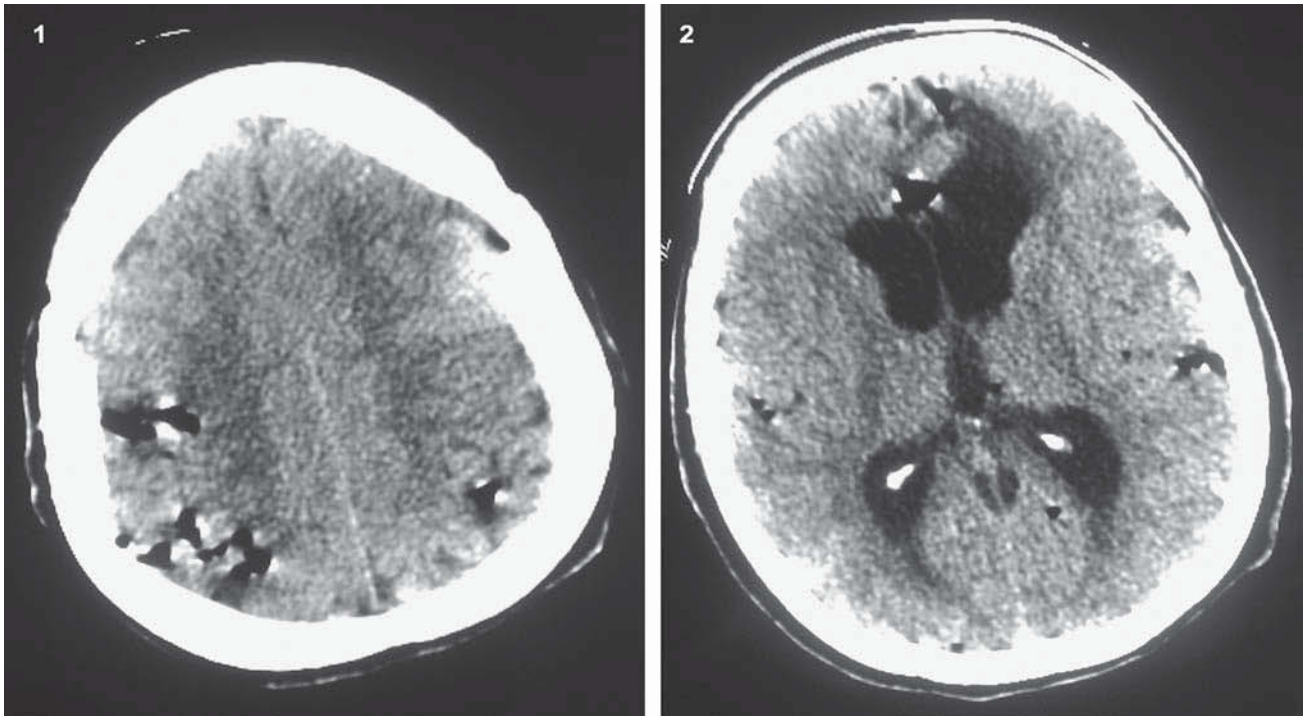
out two weeks later, revealing complete resolution of the pneumocephalus. The patient was finally remitted to neurosurgery for the fistula to be operated on.

Acquired pneumocephalus are primarily divided into traumatic (head trauma, surgery) or non-traumatic (without obvious predisposing factors, where internal agents act over a long time). In this last case, the dura is weakened, until a simple Valsalva manoeuvre can end up breaking it and causing a CSF fistula.

They usually lack clinical significance, as small amounts of air can be absorbed by the subarachnoid space. However, when the intracranial contents act like a one-way valve, a large airbag can be formed with serious consequences called tension pneumocephalus. The clinical symptoms of this are headache, restlessness, confusion, disorientation, hiccups, hemiparesis, anisocoria and meningeal signs, plus progressive neurological deterioration that occurs in the hours after the trauma or the surgery, creating very serious symptoms and an emergent procedure.

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Figures 1 and 2 Images of multiple air bubbles scattered throughout the subarachnoid space of both cerebral hemispheres.



Figure 3 Presence of an air fistulous tract that establishes communication between the ethmoid sinus and the subarachnoid space of the anterior fossa.

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