

Post-Operative Compressive Pneumocephalus: A Rare Complication of Lumbar Spinal Drainage

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Abstract

Compressive pneumocephalus is a rare condition, most often secondary to head trauma or surgery. We report post-operative compressive pneumocephalus in a patient who underwent primary surgery for anterior clinoid meningioma complicated by CSF leakage treated by lumbar spinal drainage. CT scan clearly demonstrates a compressive pneumocephalus with the sign of the Mount Fuji. The patient was treated with definite bed rest and plenty of fluid replacement with good outcome. Compressive pneumocephalus is a serious, infrequent complication and a possible cause of postoperative worsening. Medical treatment combining highly inspired oxygen therapy and rehydration are sufficient to correct the condition.

Keywords: Hydration; Oxygen therapy; Pneumocephalus

Clinical Case

Mr. A.H, 69 y old women, with a history of mitral valve disease, admitted in our department for a meningioma of the anterior clinoid process revealed by facial neuralgia in the territory of V1

evolving for 5 years and becoming resistant to medical treatment with carbamazepine. The clinical assessment of the patient at his admission showed a conscious patient with a Glasgow coma score (GCS) of 15, without neurological deficit or visual trouble.

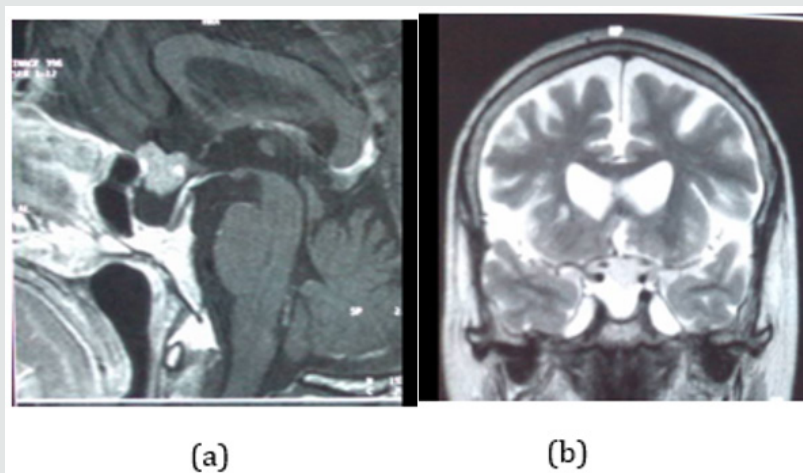


Figure 1: Cerebral MRI sagittal weighted T1 contrast (a), and coronal T2 showing anterior clinoid process meningioma with homogeneous enhancement (a) and hyperintense T2 (b).

The cerebral MRI showed a sellar lesion inserted on the anterior clinoid process in hypo signal T1, hypersignal T2 with homogenous enhancement after gadolinium injection suggesting meningioma (Figure 1). Gross total removal "Simpson I" by left pterional approach was performed and the histopathological exam confirmed transitional meningioma. The post-operative course was marked by the anterior left and posterior rhinorrhea as well as meningitis, treated successfully by antibiotics with lumbar spinal drainage. However, 3 days later, the patient accidentally fell from her bed causing a CSF hyper drainage bringing back more

than 800CC, accusing excruciating headaches and disturbances of consciousness (GCS =12) without neurological deficit. CT scan showed a huge compressive bifrontal pneumocephalus with the Mount Fuji sign (Figure 2). The decision made is to treat the patient using a rehydration regimen with daily control by an ionogram, bed rest, plenty of fluid replacement and clamping the spinal drainage. The outcome was favorable with a return to a clear consciousness without rhinorrhea or neurological deficit, also with a good control of brain CT (Figure 3).

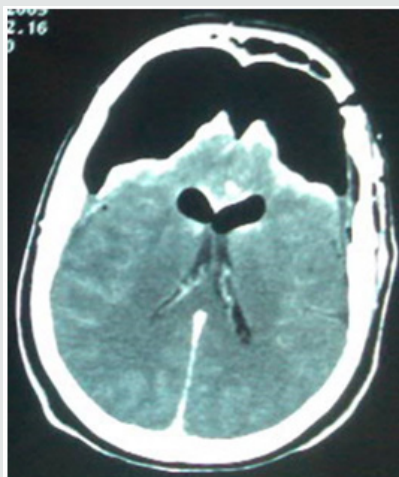


Figure 2: Axial brain CT scan with contrast demonstrating a huge compressive pneumocephalus with Mount Fuji sign.

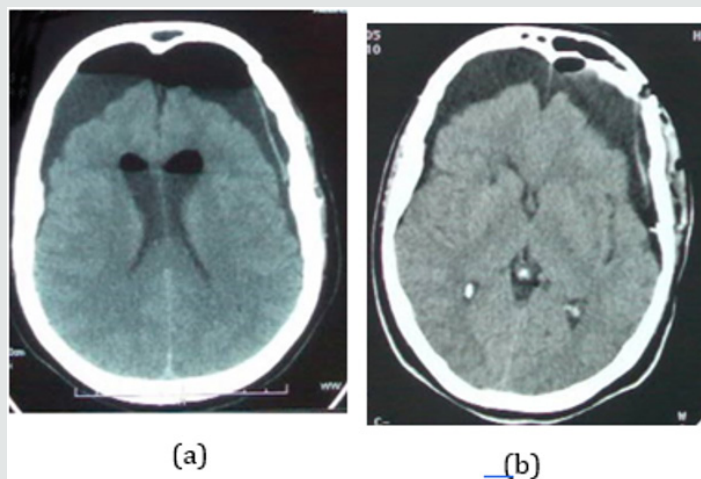


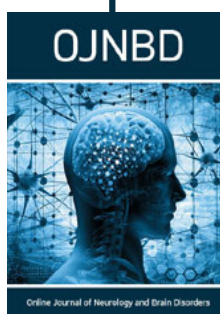
Figure 3: Axial cerebral CT scan showing regression of pneumocephalus after 1 week of treatment (a), and after 1 month (b).



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