A man with a decreased level of consciousness

A 32-year-old man presented to the emergency department with a decreased level of consciousness. He had been well up to the day before presentation, when drowsiness had gradually developed. There was no headache, seizure or fever. The patient had undergone trans-sphenoidal pituitary adenoma resection 1 week earlier and had been under hormonal treatment since then. His family and past medical history was otherwise insignificant.

On physical examination, vital signs were normal and his Glasgow coma scale was 11/15. The plantar reflexes were down bilaterally and there was no focal neurological deficit on gross motor movement. After normal bedside glucometery (198 mg/dl), the patient underwent a computed tomography scan (*Figure 1*).

This showed the Mount Fuji sign indicating tension pneumocephalus. There are two proposed mechanisms: in the 'inverted pop bottle' theory, as CSF leaks, air is drawn into the subdural space similar to the way that air bubbles rise as fluid pours out in an inverted bottle. In the 'ball-valve' mechanism, air enters the cranium through CSF leakage, which allows entry but no escape. When the intracranial pressure increases, the brain and the dura plug the fistula tract and prevent air from going out (Michel, 2004). Causes of tension pneumocephalus include trauma, infections, previous surgery and tumours of the paranasal sinuses. Patients need neurosurgical intervention to relieve intracranial pressure (Heckmann and Ganslandt, 2004; Pulickal et al, 2014). The patient underwent craniotomy and had an uneventful follow up. **BJHM**

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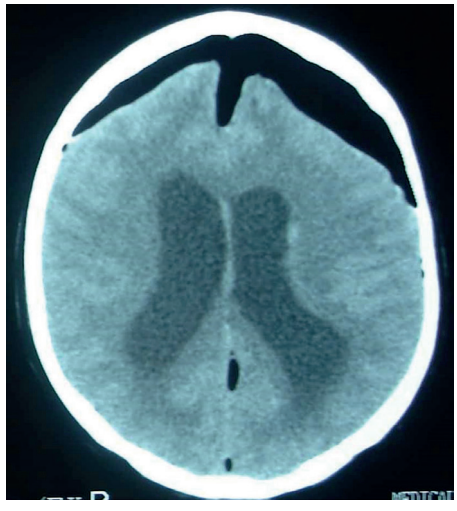
Figure 1. Bilateral extra-axial air causing significant compression of both frontal lobes with symmetrical depression near the midline.



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