



Mount Fuji Sign in Tension Pneumocephalus

Tansiyon Pnömocefalide Fuji Dağı İşareti

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ABSTRACT

The Mount Fuji sign is seen in bilateral subdural hypertensive pneumocephalus. These air collections cause compression of the frontal lobes, which take a shape similar to the silhouette of Mount Fuji. It is most commonly seen after surgical decompression of a chronic subdural hematoma. However, it may also be observed following head trauma, otogenic infections, nitrous oxide anesthesia and diving.

Keywords: Tension pneumocephalus, Mount Fuji sign, computed tomography

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ÖZET

Fuji dağı işareti iki taraflı tansiyon pnömocefalide görülür. Bu hava birikimleri frontal loblarda baskıya neden olur ve Fuji dağına benzer bir şekil alır. Sıklıkla kronik subdural hematoma cerrahi dekompresyonu sonrası görülür. Bununla birlikte kafa travması, otojenik enfeksiyonlar, nitroz oksit anestezisi ve dalmayı takiben de görülebilir.

Anahtar Kelimeler: Tansiyon pnömocefali, Fuji dağı işareti, bilgisayarlı tomografi

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Introduction

The presence of air in the cranial cavity is termed pneumocephalus, and when this benign air causes a pressure effect, it is called a tension pneumocephalus (1). In tension pneumocephalus, the air is most frequently seen in the frontal area. The diagnosis can easily be made by computerized tomography (CT).

Case Report

A 47-year-old man was admitted after he sustained injuries in a motor vehicle accident. On examination, his Glasgow Coma Scale (GCS) was 7/15 and his vital signs were stable. There was no bleeding from the ear or nose. An axial non-contrast CT scan of the brain revealed a massive pneumocephalus. In addition, there were air bubbles in the basal cisterns and cerebral fissures bilaterally (Figure 1). Since the patient was neurologically intact and did not have any cerebrospinal fluid leak, he was managed conservatively with decongestants and oxygen by mask. Recovery was uneventful with resolution of pneumocephalus.

Discussion

Whereas pneumocephalus is present in up to 10% of post-traumatic head CTs, this scan also depicts what has been described as the "Mount Fuji sign" indicative of a tension pneumocephalus. This is where the air separates and compresses the frontal lobes to mimic the profile of the volcano Mount Fuji in Japan. The Mount Fuji sign is a finding that can be observed on CT scans of the brain, in which bilateral subdural hypoattenuating collections cause compression and separation of the frontal lobes. The Mount Fuji sign on CT scan is useful in discriminating a tension pneumocephalus from a non-tension pneumocephalus. Tension pneumocephalus occurs when the intracranial air causes a mass effect and the brain is compressed. It has been reported to occur in a variety of situations, including posterior fossa surgery in the sitting position, use of an indwelling cerebrospinal drainage device, trauma, otogenic infections and chronic subdural hematoma drainage (2-5).

Conclusion

Identification of this sign by radiologist can have immediate and important clinical implications for patient care and outcome.

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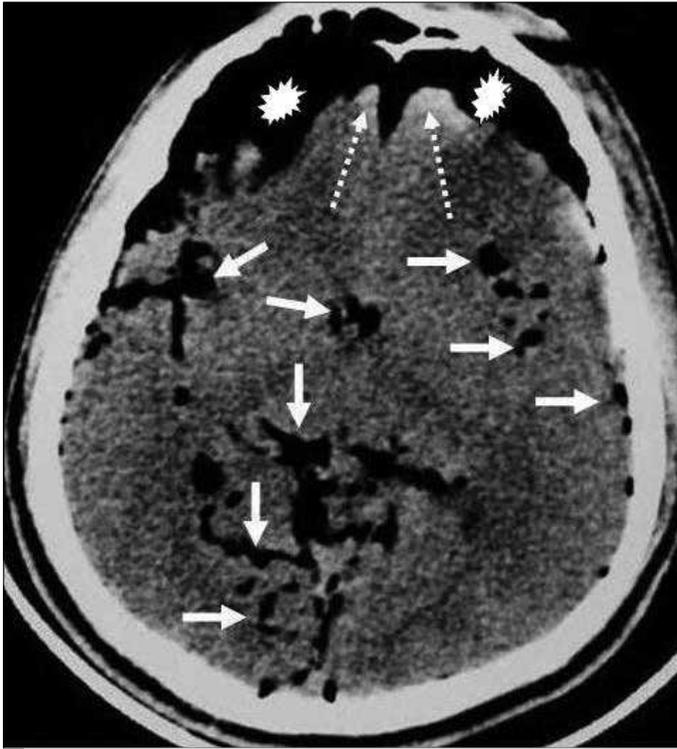


Figure 1. Axial non-contrast CT scan of head show massive accumulation of subdural air (asterisk) with compression on both frontal lobes (dotted arrows). In addition, the air in all major cisterns, ventricles and subarachnoid spaces is seen on CT scan (white arrows)

Conflict of Interest

No conflict of interest was declared by the authors.

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Author Contributions

Concept - M.H.A.; Design - M.H.A.; Supervision - M.H.A.; Funding - M.H.A.; Materials - M.H.A.; Data Collection and/or Processing - M.H.A.; Analysis and/or Interpretation - M.H.A.; Literature Review - M.H.A.; Writer - M.H.A.; Critical Review - M.H.A.

Çıkar Çatışması

Yazarlar herhangi bir çıkar çatışması bildirmemişlerdir.

Hakem değerlendirmesi: Dış bağımsız.

Yazar Katkıları

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