



# A Patient with Bilateral Subdural Hematoma due to Spontaneous Intracranial Hypotension

## *Spontan İntrakraniyal Hipotansiyona Bağlı Bilateral Subdural Hematom Olgusu*

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**Anahtar Kelimeler:** Spontan intrakraniyal hipotansiyon, subdural hematom, manyetik rezonans görüntüleme

### Dear Editor,

A 36-year-old male patient was admitted to our clinic with a throbbing, bilateral headache, which was not accompanied with photophonophobia, was unresponsive to non-steroidal anti-inflammatory drugs, and was with intermittent nausea and vomiting for a week. His medical and family histories were unremarkable. His physical and neurologic examinations were normal. In routine laboratory tests, brain computed tomography (CT) and magnetic resonance imaging (MRI), MRI angiography and venography, no significant neuropathology was observed (Figure 1). The patient, who benefited from anxiolytic treatment, refused to undergo lumbar puncture (LP) and was discharged. It was learnt that the patient's pain gained orthostatic character when he was re-admitted four weeks later due to aggravation in the headache. In LP, the patient's cerebrospinal fluid (CSF) could not be retrieved and CSF pressure could not be measured. A follow-up MRI of the patient, which was performed because of an increase in headache after LP, showed pachymeningeal contrast involvement with bilateral subdural hematoma (SDH) (Figure 2). The SDH was drained by the department of neurosurgery due to worsening in his clinical status (increase in headache, nausea, decrease in hearing). No CSF leak was detected in cervical, thoracic and lumbar spinal MRIs, and in CSF flow MRI, which were performed to establish the cause of spontaneous intracranial hypotension (SIH). Conservative treatments (copious liquid and

caffeinated drinks) were recommended and the patient's clinical status improved in the third week after the operation.

SIH is a rare syndrome characterized by orthostatic headache and low CSF pressure, which occurs due to spontaneous leakage of CSF in patients with no history of trauma or LP (1,2). Diagnosis is made by the presence of findings including postural (orthostatic) headache, low CSF opening pressure, and abnormal MRI findings (diffuse dural thickening, downward displacement of the brain, enlargement of the pituitary gland, subdural effusion). Today, the most widely accepted mechanism for SIH is CSF leakage from small dural tears (3). Orthostatic headache is typically bilateral in the frontal and occipital regions. SDHs, which may cause changes in consciousness due to diencephalic pressure, may occur due to stretching and tearing of bridge veins as a result of downward displacement of the brain (4,5). MRI showed diffuse gadolinium involvement in the pachymeninx, subdural fluid collections, and findings indicating downward displacement of the brain. Subdural fluid accumulations are usually thin, bilateral, and do not produce a significant mass effect, but sometimes there may be clinical worsening (2,3,6).

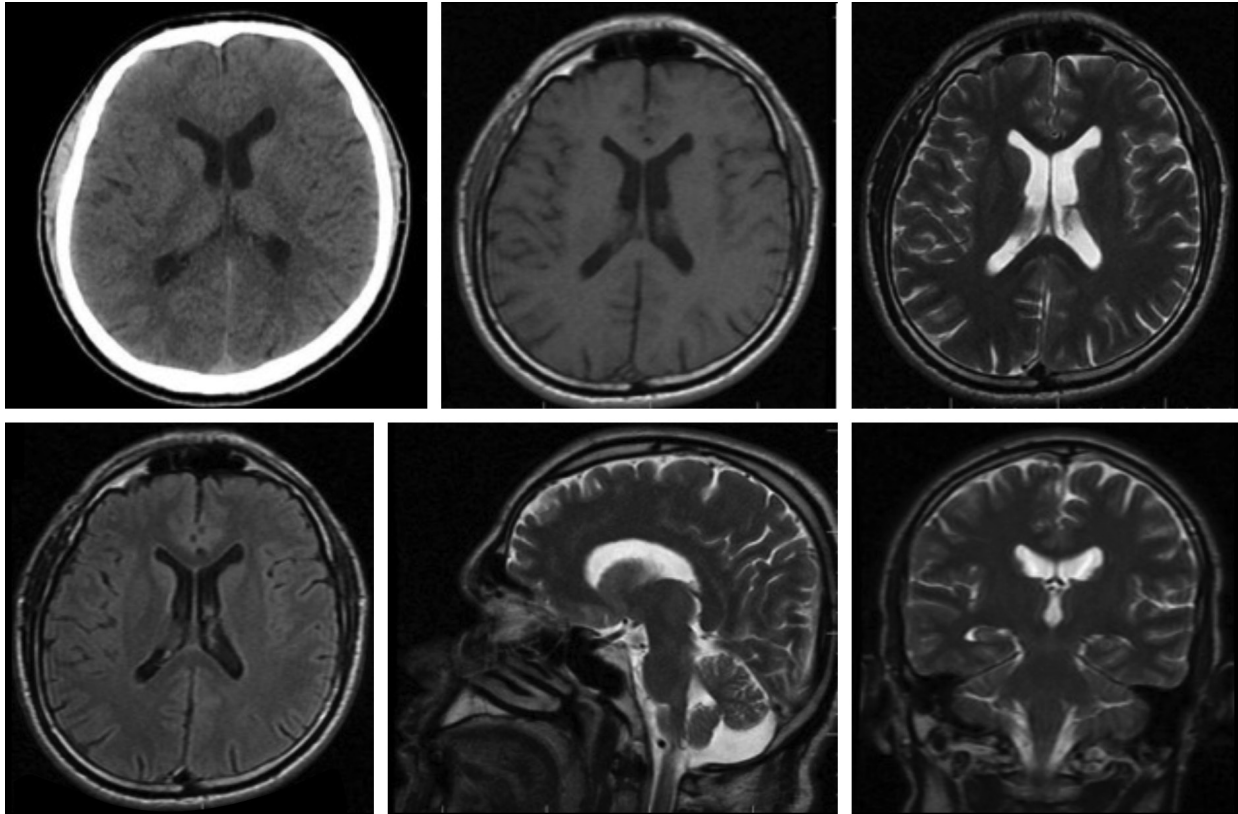
Although SIH is a characteristic clinical picture and has typical MRI findings, it is a little recognized syndrome. It should be noted that the downward displacement of the brain can lead to rupture of bridging veins and to emergent conditions such as SDH.

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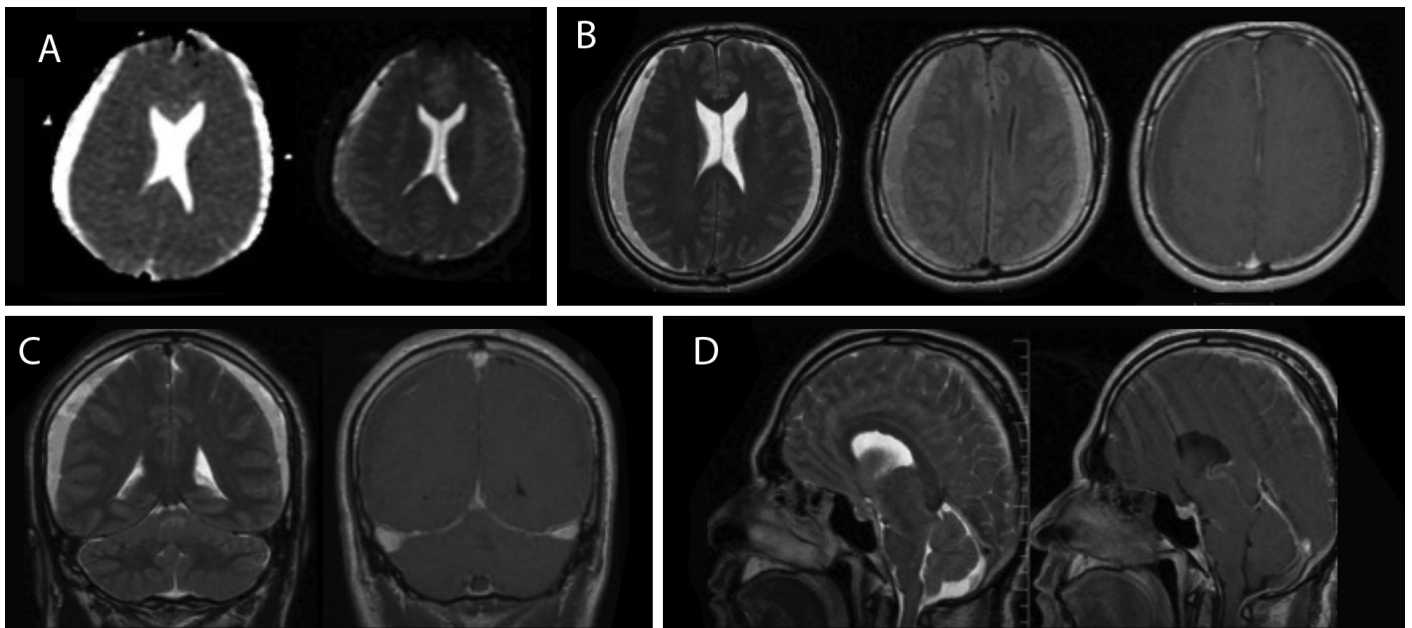
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**Figure 1.** Normal brain computed tomography and magnetic resonance imaging in first scanning



**Figure 2.** In magnetic resonance imaging (MRI) T1 weighted imaging hypointense, T2 weighted imaging hyperintense diffusion-weighted imaging hyperintense, apparent diffusion co-efficient hyper-isointense lesions in bilateral frontoparietal regions suggesting subdural hematoma in subacute period (A, B, C). Bilateral pachymeningeal mild contrast enhancement is shown in post-contrast coronal sequence (C). Diffuse enlargement of the pituitary gland, slight overflow of cerebellar tonsils from the foramen magnum to the spinal canal and distension of venous structures are observed in contrast-enhanced sagittal MRI (D)

## Ethics

**Informed Consent:** Consent form was filled out by a patient.

**Peer-review:** Internally peer-reviewed.

## Authorship Contributions

Surgical and Medical Practices: Ö.Ö., L.Ö., Concept: Ö.Ö., Design: L.Ö., Data Collection or Processing: Ö.Ö., L.Ö., Analysis or Interpretation: Ö.Ö., Literature Search: Ö.Ö., L.Ö., Writing: Ö.Ö.

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