

## Spontaneous Intracranial Hypotension

Chi-Chao Chao and Sung-Tsang Hsieh



A previously healthy 31-year-old man experienced explosive headache at bilateral occipito-parieto-temporal areas. The headache accentuated in the upright position and was relieved in the recumbent position. Aggravating factors included head shaking, movements and the strain during defecation or cough. The headache was getting worse and worse and made the patient difficult to keep upright posture for a while. He also suffered from fullness sensation of eyeballs, occasional nausea and vomiting. But no aura, photophobia, phonophobia was noted and no lumbar puncture or recent trauma history could be traced.

He was sent to our hospital due to the intractable orthostatic headache. Neurological examinations and laboratory studies were all normal. Brain magnetic resonance imaging (MRI) showed diffuse dural thickening with enhancement (arrowheads) and subdural effusion (arrow). Cerebrospinal fluid (CSF) studies showed low pressure (open pressure = 10 cmH<sub>2</sub>O), increased protein (111 mg/dl) and pleocytosis (L/N = 28/1). Spontaneous intracranial hypotension (SIH) was diagnosed based on clinical presentations and imaging studies. However the consciousness deteriorated progressively even under aggressive hydration. Epidural blood patch and surgical

From the Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan; Department of Anatomy and Cell Biology, National Taiwan University College of Medicine, Taipei, Taiwan.

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Reprint requests and correspondence to: Sung-Tsang Hsieh, MD, Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan.

E-mail: sthsieh@ha.mc.ntu.edu.tw

drainage of subdural collection were performed. His consciousness improved gradually and the headache subsided before discharge.

SIH is a syndrome with subnormal CSF pressure that occurs in the absence of dural puncture, surgery or penetrating trauma. Orthostatic headache is the cardinal symptom of this syndrome<sup>(1)</sup>. The pathogenesis of SIH remains unknown but is usually considered to be an occult CSF leak through trivial trauma and weakness of dural sac in the meninges<sup>(2)</sup> with a resultant decrease in CSF volume and pressure. CSF volume depletion leads to the distortion of various anchoring pain-sensitive structures on the brain surface, and causes orthostatic headache. The findings of brain MRI are characteristic and diagnostic<sup>(3)</sup>. Treatment options include bed rest, intravenous hydration, caffeine or theophyllin, epidural blood patch, epidural saline infusion, epidural injection of fibrin glue and surgical repair<sup>(4)</sup>. Symptoms of some

patients could be improved only by conservative treatments. However early recognition and correct diagnosis is crucial for prevention of severe complications like symptomatic subdural hematoma.

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