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When intracranial pressure is low

IMAGES IN MEDICINE

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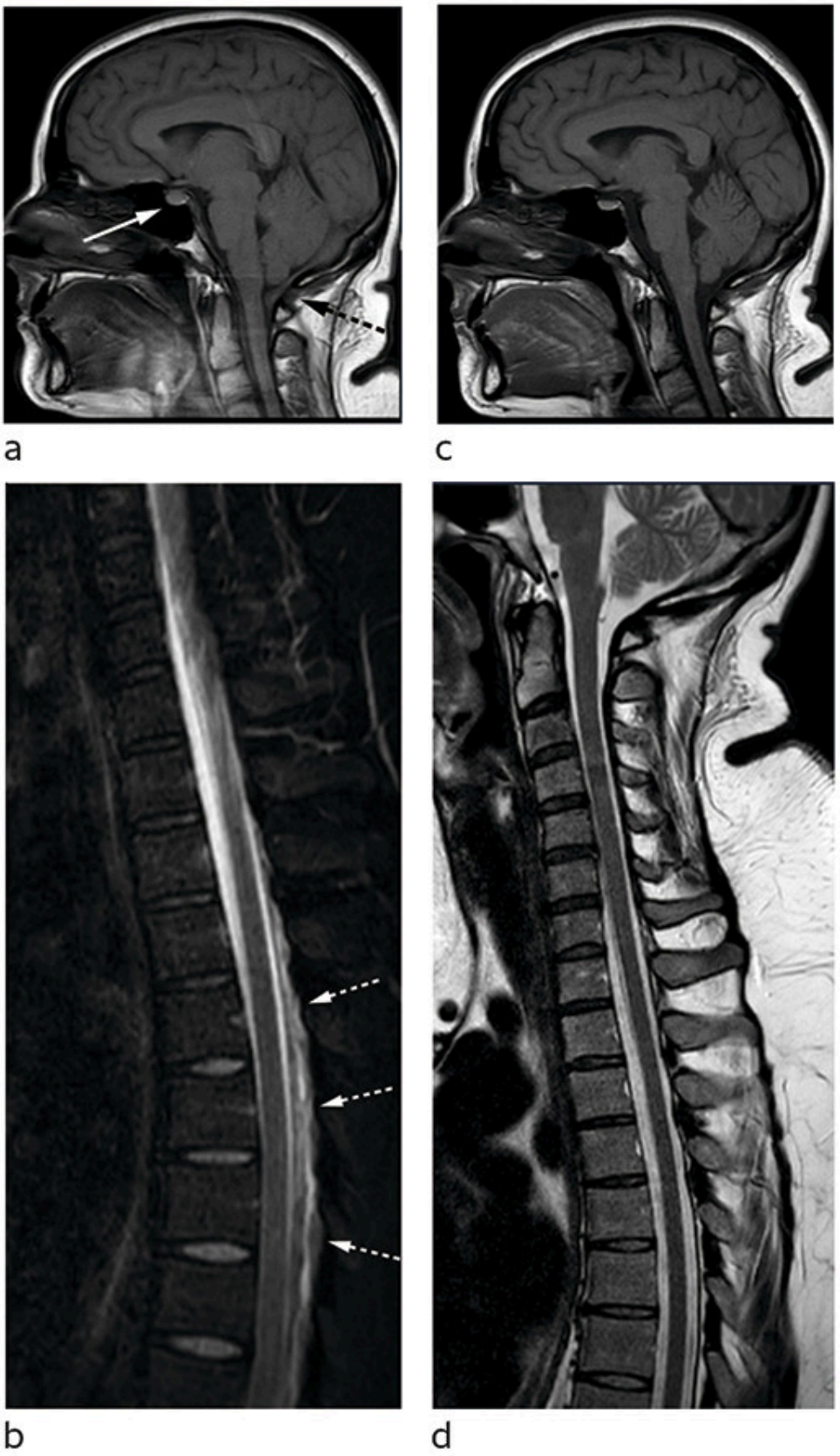

The images show the neuraxis in a previously healthy woman in her thirties. The sagittal T1-weighted image of the head (Image A) shows an enlarged pituitary gland (white arrow) and downward displacement of the brain stem and cerebellar tonsils to the foramen magnum (dotted black arrow). The

sagittal fat-suppressed T2-weighted image of the cervicothoracic spine (Image B) shows an epidural fluid collection at T4–T9 (white arrow). Meningeal thickening was also detected (not shown here) (FLAIR sequence), as well as a subdural fluid collection with blood products along the tentorium (susceptibility-weighted sequence).

The woman sought emergency out-of-hours medical attention due to new onset of a feeling of stiffness between the shoulder blades with radiating pain and numbness in the upper extremities. She was also experiencing intense throbbing headache accompanied by dizziness, nausea and vomiting. The headache varied predictably and was fully relieved by lying down and clearly worsened on change of position.

The MRI findings and case history raised a strong suspicion of spontaneous intracranial hypotension (SIH). The patient was treated with flat bedrest and oral phenazone-caffeine and acetazolamide prior to a thoracic epidural blood patch, with the injection of 20 ml autologous venous blood at T7/T8. The procedure was followed by 24 hours of bedrest with the patient in a head-down position at 30 degrees (Trendelenburg position). She had a good effect from the treatment and could be discharged home after three days. Two months later her condition had improved considerably and she was free of medication. Three months after the blood patch, her intracranial status had returned to normal and there was only a small amount of residual fluid in the spinal epidural space (Figures C and D at tidsskriftet.no).

Spontaneous intracranial hypotension is probably underdiagnosed and is characterised by orthostatic headache similar to post-puncture headache, and possibly other neurological symptoms that tend to fluctuate with change of position and/or movement. If this disorder is suspected, the patient should be referred to a neurologist for assessment of other potentially serious causes of secondary postural headache, for example cerebral venous sinus thrombosis or subarachnoid haemorrhage. Accompanying symptoms such as nausea and vomiting, neck pain and stiffness are seen in around half of patients (1). Typical MRI findings are diffuse meningeal thickening and contrast enhancement, venous engorgement and caudal displacement of the brain, but also enlarged pituitary gland as in our patient. Radiological investigation enables the leak site and intervention site to be located and can detect complications such as subdural haematoma formation.

A single epidural blood patch produces a satisfactory effect in over half of patients. In patients who do not respond to the aforementioned treatment regimen, consideration must be given to targeted surgical intervention at the leak site, which can be difficult to identify in some cases.

The patient has given consent for the article to be published.

The article has been peer-reviewed.

LITERATURE

1. D'Antona L, Jaime Merchan MA, Vassiliou A et al. Clinical presentation, investigation findings, and treatment outcomes of spontaneous intracranial

hypotension syndrome. JAMA Neurol 2021; 78: 329–37. [PubMed] [CrossRef]

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