Acta Neurol. Belg., 2010, **110**, 268-269

Spontaneous subdural spinal haematoma presenting as occipital headache: a case report.

Raffaele Nardone[1,2], Alexander Kunz[1], Jörg Kraus[1], Wolfgang Staffen[1], Gunther Ladurner[1], Eugen Trinka[1], Stefan Golaszewski[1]

[1]Department of Neurology, Christian Doppler Clinic, Paracelsus Medical University, Salzburg, Austria; [2]Department of Neurology, Franz Tappeiner Hospital, Merano, Italy

Abstract

Spinal subdural hematoma (SSDH) with no underlying pathology is a very rare condition and has been rarely reported. Our patient presented with severe occipital headache as isolated symptom during the first 4 days. SSDH slowly enlarges with time, and first determines tension of the pain-sensitive dural membrane, resulting in cervicogenic-like headache. Therefore, spontaneous SSDH should be considered in the differential diagnosis of recent occipital headache.

Key words: spinal subdural hematoma; cervicogenic headache; magnetic resonance imaging; dura matter.

Introduction

Compared with spinal epidural hematomas, spinal subdural hematomas (SSDH) are rare; chronic forms are even more uncommon(1). Most cases are associated with trauma, including minor injuries, lumbar punctures, epidural anaesthesia, and other medical procedures. Non-traumatic cases have also been reported, either in association with a bleeding diathesis due to coagulopathy, anticoagulant therapy or thrombocytopenia, or secondary to arteriovenous malformations. SSDH is very seldom in the absence of these underlying conditions.

SSDH usually presents with sudden back pain radiating into the arms, legs or trunk, associated with varying degrees of motor, sensory, and autonomic disturbances.

We report on a patient who presented with a rare spontaneous SSDH manifesting as isolated occipital headache.

Case report

A 37-year-old man came to our attention for gradually increasing occipital headache accompanied by neck stiffness which developed the day before; the headache was exacerbated by exercise or neck movements. Cerebral computed tomography revealed no abnormality. His mental status and cognitive functions were normal. Besides moderate neck stiffness, there were no other signs of meningeal irritation. The cranial nerve examination disclosed no abnormalities. Cerebellar functions were intact on both sides. Deep tendon reflexes were decreased at the left side, and no Babinski sign were noted. He underwent a lumbar puncture to eliminate the possibility of subarachnoid haemorrhage or meningitis. The cerebrospinal fluid showed xanthochromia; however, cerebral angiography showed no abnormality. The patient was treated with analgesics (non-steroidal anti-inflammatory drugs) and bed rest. However, his headache persisted and, four days after the onset of the headache, a cervical radicular pain radiating into the left arm without any sensory abnormalities occurred.

At this time spinal magnetic resonance imaging (MRI) was performed, which revealed a cervicothoracic haematoma, extending from C7 to Th4 (Fig. 1a,b). The lesion was located in the extramedullary and intradural space, indicating that it was of subdural origin. Spinal angiography was unremarkable. In the following days gait disturbance gradually appeared; manual muscle testing showed a slight paraparesis with a decrease in muscle strength to Grade 4 at both lower extremities, and a mild sensory deficit of pain and temperature below the T5 sensory level. No impairment of vesico-rectal function was seen.

All the laboratory studies, including complete blood counts and coagulation screen (platelet: 248.000/uL, prothrombin time: 102%, activated partial thromboplastin (aPTT) time: 30 sec, protein C: 108%, protein S: 75%, D-dimer: 324 ng/mL, fibrinogen: 328 mg/dL, FDP: 40 ug/mL, antithrombin III: 90%), autoimmune test (rheumatoid factor, antinuclear antibody, anti-ds DNA antibody, lupus anticoagulant, anticardiolipin IgG) were negative.

The haematoma and its symptoms regressed spontaneously after several weeks of conservative treatment.

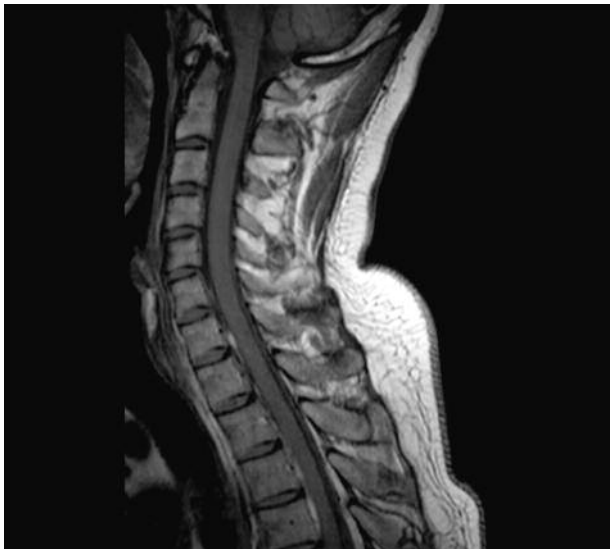

FIG. 1a. — Sagittal T1-weighted magnetic resonance imaging (MRI) showing a subdural hematoma at level C7-Th4.

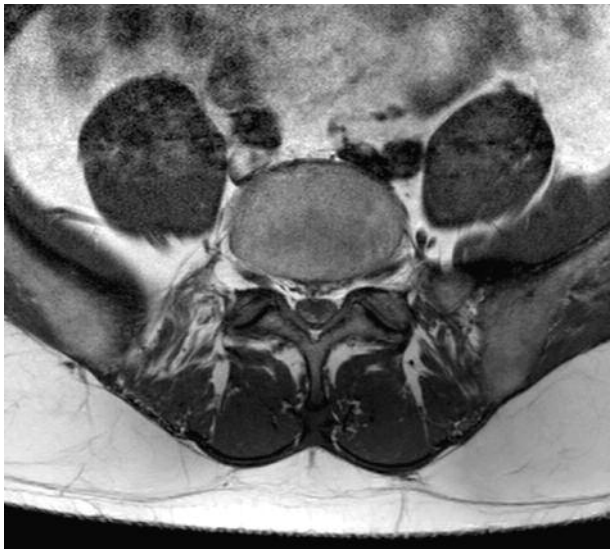

FIG. 1b. — Axial T1-weighted MRI showing a "curtain sign" typical for a spinal subdural space occupying lesion.

Discussion

Only a few cases with idiopathic spontaneous SSDH have been reported in the literature (2,3). The most common site of SSDH is in the thoraco-lumbar or lumbar segment. SSDH at the cervical or cervico-thoracic region is rare. Our case presented a spontaneous acute cervico-thoracic SSDH confirmed by MRI. There was no evidence of vascular malformations in spinal MRI and spinal angiography. Screening for bleeding disorders was unremarkable.

We believe this case is worth reporting also because our patient suffered only from cervicogenic-like headache during the first four days of disease. The dura is an extremely sensitive structure, and it has been proposed that adverse tension in the spinal dura can cause cervicogenic headache. SSDH is a space-occupying lesion, usually ventrally located, constrained by the dura matter, which slowly enlarges with time. Dural tension and meningeal irritation may cause neck stiffness and occipital headache before the neurological deficits due to radicular and spinal cord compression become evident. Indeed, almost any pathology affecting the cervical spine has been implicated in the genesis of so-called cervicogenic headaches as a result of convergence of sensory inputs from the cervical structures in the caudal part of the spinal trigeminal nucleus (4,5).

Neck stiffness and occipital headache can occur in SSDH as a rare and unusual presentation and can easily be misdiagnosed. The key to early diagnosis is to be aware of the possibility and careful repeated neurological examination. Although most patients usually present with spinal or radicular pain followed by symptoms of spinal cord compression (including motor, sensory and autonomic dysfunction), neurological deficits may be absent initially.Unusual symptoms such as isolated occipital headache may lead to misdiagnosis in early stages, delaying treatment in some cases of subdural spinal haematoma with severe spinal cord compression.

Spontaneous SSDH is a rare condition but should be a diagnostic consideration also in patients whose presentation is atypical and should be included among the possible causes of cervicogenic-like headaches.

REFERENCES

1. Kreppel D, Antoniadis G, Aeeling W. Spinal hematoma: a literature survey with meta-analysis of 613 patients. Neurosurg. Rev. 2003;26:1-49.
2. Montano N, Nucci CG, Doglietto F, Cianfoni A, Lucantoni C. *et al*. Neuroimage: Spontaneous idiopathic spinal subdural hematoma. Neurology. 2008; 71(10): e27.
3. Kyriakides AE, Lalam RK, El Masry WS. Acute spontaneous spinal subdural hematoma presenting as paraplegia: a rare case. Spine. 2007;32(21):e619-e622.
4. Haldeman DC, Dagenais S. Cervicogenic headaches: a critical review. Spine J. 2001;1:31-46.
5. Alix ME, Bates DK. A proposed etiology of cervicogenic headache: the neurophysiologic basis and anatomic relationship between the dura mater and the rectus posterior capitis minor muscle. J Manipul Physiol Ther. 1999;22:534-539.

Dr. R. Nardone
Department of Neurology
"F. Tappeiner" Hospital – Merano, Via Rossini 5
39012 Merano (BZ), Italy
E-mail: raffaele.nardone@asbmeran-o.it