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Recovery of increased signal intensity of the cervical cord on magnetic resonance imaging after surgery for spontaneous spinal epidural hematoma causing hemiparesis

Sir,

Spontaneous spinal epidural hematoma (SSEH) is a rare acute condition with no significant trauma.^[1-3] Minor trauma, an acute increase in the venous pressure, blood hypertension, anticoagulants and bleeding diathesis are considered to be inducers of SSEH. Emergent surgery has been indicated in most cases of SSEH^[1] although conservative therapy has been reported to be selected. We describe herein a case of SSEH presenting with

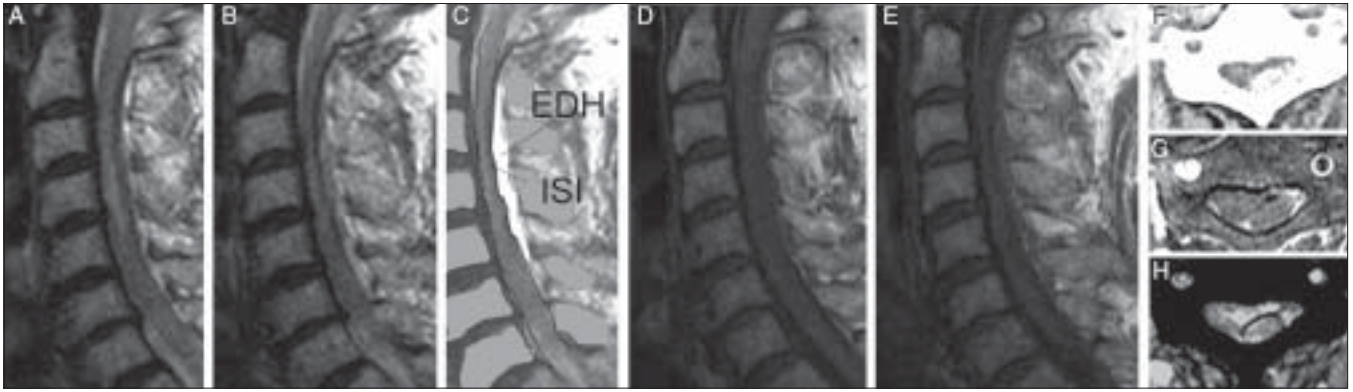


Figure 1: A.-E. T2- (A and B) and T1- (D and E) weighted sagittal view of MR images on admission showing an iso-intense lesion on the level from C2 to C6. A schematic Figure (C) corresponds to Figure B F.-H. CT scan (F), T1- (G) and T2-weighted (H) axial view of MR imaging on the C4 level

hemiparesis.

An 82-year-old man noticed severe pain in his neck and left arm and rapid progressive weakness in his left arm and foot. He was admitted to a nearby hospital with a diagnosis of cerebral infarction. The patient was referred to our hospital 16 h after the occurrence of symptoms. He had a previous history of hypertension, angina pectoris and asymptomatic multiple cerebral infarctions. He has been treated with aspirin.

Physical examination revealed no traumatic wound on his body. Neurological examinations revealed severe left hemiparesis with neither facial palsy nor sensory abnormality. All blood-chemical findings, including platelet count, prothrombin time and activated thromboplastin time, were normal. A plain computer tomography (CT) scan of the brain excluded an acute cerebral event. The CT scan of the cervical spine revealed a high dense lesion in the left side of the spinal canal on the level from the second cervical lamina (C2) to the sixth cervical lamina (C6), compressing the spinal cord. Magnetic resonance (MR) imaging revealed an iso-intense extradural lesion and increased signal intensity (ISI) of the cervical cord on T2-weighted image [Figure 1].

Laminectomy was performed and the epidural hematoma (EDH) was evacuated. During surgery, any abnormality of the vessels or dura was not observed. Histopathological examinations revealed that the specimen consisted of typical hematoma. The postoperative course was uneventful, with gradual recovery from left hemiparesis and MR imaging performed one day, one week and two months afterwards revealed apparent recovery of ISI [Figure 2].

Hemiparesis due to SSEH is a relatively uncommon symptom compared with tetraparesis and a few cases of hemiparesis due to SSEH have been reported. The patients with hemiparesis have often been misdiagnosed as cerebral infarction.^[1] We emphasize that SSEH should be considered in patients with hemiparesis especially when having neck and arm pain. It is considered

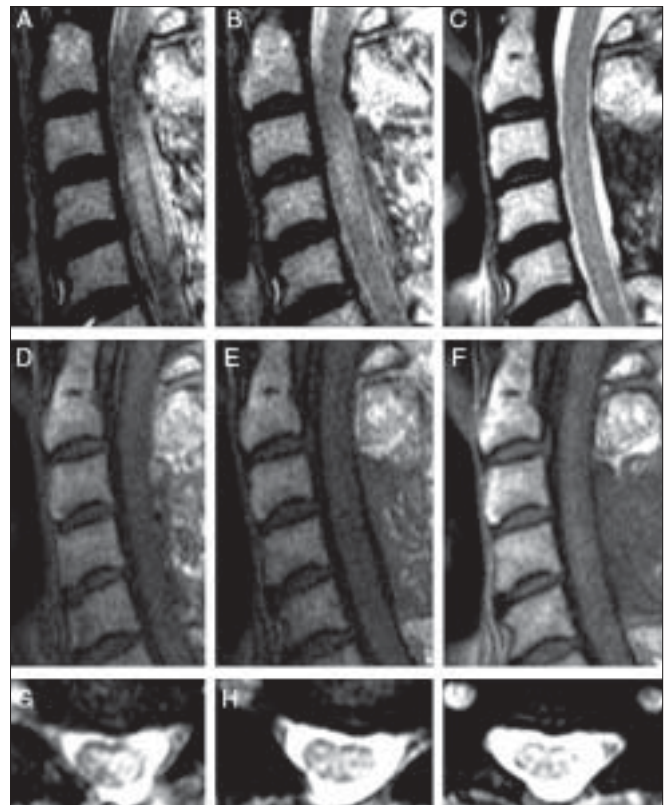


Figure 2: Sagittal view on T2- and T1-weighted MRI images and axial view on T2-weighted MR images one day (A, D and G), one week (B, E and H) and two months (C, F and I) after surgery

that the neurological outcomes of patients with incomplete neurological deficit including hemiparesis are reversible, when appropriate managements are selected, though most cases of complete tetraparesis may be irreversible.^[1,2] Also in our case, severe hemiparesis improved after emergent evacuation of hematoma.

In a review of spinal EDH mainly caused by traumatic accident, ISI was found to be associated with poor outcome.^[4] In SSEH, no statistical difference has been observed between functional outcomes of patients with ISI and without ISI, although ISI tends to be related

to a poor functional outcome.^[2] Also, in patients with mild cervical myelopathy, ISI was not related to a poor outcome of conservative treatment or severity of myelopathy, although there was some tendency that satisfactory outcome was obtained in patients with improvement of ISI and patients without ISI initially, compared to patients without improvement of ISI.^[5] In our case, ISI recovered dramatically after surgical decompression in association with recovery of hemiparesis. Even if ISI is present, intensive therapy should be applied because functional recovery may be expected, as in our case.

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