

## A rare case of spontaneous spinal ventral extradural hematoma in a pregnant woman: Case report and review of literature

Sir,

Spontaneous spinal extradural hematoma (SSEH) is a rare devastating pathology, accounts about 0.3-0.9% of all epidural space-occupying lesions with a tendency to affect males, especially in the 4<sup>th</sup> to 5<sup>th</sup> decades.<sup>[1]</sup> It is extremely unusual in pregnant women mainly affecting dorsal epidural region of upper thoracic region in pregnancies of 30-40 weeks gestation.<sup>[1]</sup> Spontaneous spinal ventral extradural hematoma (SSVEH) is extremely rare event. We here introduced such a case. A 25-year-old pregnant woman week 28, G1P0, presented with sudden onset severe lower extremities weakness since 48 hr before admission. Neurologic examination realized flaccid complete paraplegia and T4 sensory level on admission. No evidence of acute or chronic infection was detected. T2-weighted imaging (WI) on (1.5 Tesla magnetic resonance imaging) of the cervico-dorsal spine revealed a longitudinal heterogeneous hypersignal lesion in the ventral aspect of spinal epidural region at C8-T4 level with compressive effect on spinal cord [Figure 1a and c]. T1-WI disclosed mainly iso-hypointense appearance [Figure 1b and d]. A diagnosis of SSVEH in hyperacute-acute stage was made. Complete historical and clinical evaluation realized no predisposing factor. Due to fetal considerations, the patient's baby was delivered by cesarean section without any complication. Thereafter, spinal epidural hematoma was evacuated with posterior laminectomy approach. Follow-up selective spinal angiography was normal. Unfortunately, no clinical improvement was seen during 4 months of follow-up. Complete historical and clinical evaluation realized no predisposing factor. Our analyzing of previous pregnancy-related SSEH disclosed that SSEH mainly involves women at gestational age of 30-40.<sup>[2]</sup> No predisposing factor has been related other than two cases who developed SEH in a setting of low molecular weight heparin consumption and one, during postpartum period.<sup>[2]</sup> Upper thoracic epidural space (more than 70%) especially dorsal plane is the main location involves in SSEH.<sup>[1]</sup> More distinguished venous plexus in dorsal epidural space of thoracic region persuades some investigators to suggest that SSEH happens secondary to pregnancy-induced elevated venous pressure.<sup>[3]</sup> This hypothesis is supported by the fact that the presence of fat as the main structure of epidural space in dorsal plane weakens it in compare to ventral plane in which tight adherence of posterior longitudinal ligament to anterior



**Figure 1:** Sagittal and axial T2-weighted (a and c) magnetic resonance images showing a longitudinal heterogeneous hypersignal lesion in the ventral plan of epidural space extending from C8-T4 level, compressing the spinal cord (arrows). The lesion appeared mainly iso-hypointense on T1-weighted (b and d) images. Above findings are compatible with hyperacute-acute spinal epidural hematoma

dura protects it against dynamic or static traumas so far only a few cases of ventral epidural hematoma have been reported.<sup>[1,3]</sup>

In-time emergent multidisciplinary intervention is needed for minimizing neurological disabilities.<sup>[1]</sup> Treatment is dependent to gestational age and neurological deficits. Patients with mild neurological deficits and small epidural hematoma may be managed conservatively especially when an aggravating factor is not detected.<sup>[1]</sup> If clinical syndrome shows a progressive course, an emergent intervention will be necessary. Although previous reports showed no strong correlation between time of the symptom's onset and surgical intervention, it has been recommended that decompression should be done as soon as possible, preferentially < 12 h of the beginning of symptoms. Obstetrics consideration is another important factor in therapeutic plan. Cesarean section is the preferred method of delivery which commonly is advised as the first procedure in full term gestation.<sup>[4]</sup> Due to increasing effect of uterine contraction on spinal venous pressure; vaginal delivery should be avoided.<sup>[1,4]</sup> In early stages of gestational period, hematoma evacuation may be considered at first. If fetus is viable, pregnancy will continued and terminated with cesarean section as the fetus became mature.<sup>[1,3]</sup>

To conclude, although SSEH is an extremely rare event in pregnancy, it can be associated with severe catastrophic burden. Hence; neurologists/neurosurgeons must be

mindful of clinical and radiological features of disease for preventing irrecoverable devastating sequels.

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