A Case of Spontaneous Spinal Epidural Hemorrhage

Vaidya B,* Khadka N,** Sharma GR**
*Neurosurgeon, **Assistant Professor NAMS.

ABSTRACT

We have reported a 40 year old female patient who was admitted with a main complain of sudden onset of weakness of bilateral lower limbs for 2 days. There was no history of trauma, fever, coagulopathies, use of anti coagulation drugs etc. In this case we have discussed the differential diagnosis, incidence, clinical features, radiological features, and need of urgent evacuation and prognosis of spontaneous spinal epidural hematoma.

ABBREVIATIONS: SSEH, SSDH, MRI

KEY WORDS: Spontaneous Spinal epidural hematoma, Spontaneous spinal subdural hematoma.

INTRODUCTION

Spontaneous Spinal epidural hematoma (SSEH) means spontaneous collecting of blood in spinal epidural space without any obvious trauma or secondary causes(1). Spontaneous Spinal epidural hematoma is rare and only over 400 cases of various etiology have been reported in literature(1, 2). Urgent surgical evacuation of a hematoma is generally indicated to prevent serious permanent neurological deficits.

CASE REPORT

We are presenting a case of 40 year old female patient who presented with a main complain of sudden onset of weakness of bilateral lower limbs and inability to move lower limbs for last 2 days. She noticed the weakness of lower limbs when she woke up in morning. There was no history of trauma and fever. There was no significant medical and surgical history. On examination, the patient was well oriented to time place and person, GCS 15/15, Pupil was normal size reacting to light, Power on bilateral lower limb 0/5, sensation lost below T10 level. Tone was decreased, Absent reflexes of both knee and ankle and planters were mute. There was no local tenderness and swelling. On palpation no obvious kyphosis/scoliosis, Bowel/bladder habit was normal. Lab investigation showed platelets 1, 46, 000, others within normal limit, MRI showed D10-L2 extradural collection with spinal cord compression with ischemia. The patient underwent emergency decompressive laminectomy of D10-L2 level and evacuation of hematoma. Operative findings were extradural hematoma at D10-L2 level and histologically proved out to be hematoma. Postoperative period was uneventful, her neurology improved and had sensation down to bilateral legs and power at time of discharge is 1/5.

Correspondence:
Dr Bivek Vaidya
NNRC, Bir Hospital
Kathmandu, Nepal, 9841278641.
bivek999@hotmail.com

Figure 1.
DISCUSSION

Spontaneous Spinal epidural hemorrhage is rare. Only about 400 cases have been reported (1, 2). Its incidence estimated by Holtas et al (3) was 0.1 patient per 100,000 population and less than 1% of spinal epidural space occupied lesions (4). There are many causes of SSEH like atherosclerosis, hypertension, anticoagulants, pregnancy, angioma, hemangioma, use of heparin etc (5). Trauma as a cause of spinal epidural hemorrhage is unusual. Twice more common in male than female and most frequently in middle and old age group. The most common site of a spontaneous spinal epidural hematoma is the cervicothoracic region or thoracolumbar region and are mostly localized to 2 or 3 segments (6, 7, 8). SSEH are usually located posterior to thecal sac (8, 9). SSEH is commonly associated with daily, lifting, coughing, straining, micturation, etc. The exact mechanism of SSEH is still controversial (10). Some author feel that spinal epidural hemorrhage is venous in origin. The lack of valves is unique feature of the epidural venous plexus which permits reversal of flow in the system and allows sudden increase in pressure during daily activities. Several authors have proposed the spinal epidural arteries as a source of hemorrhage. A more likely explanation is that pressure from arterial bleeding compresses the spinal cord, because the intra-thecal pressure is higher than the venous pressure (5, 6).

CLINICAL PRESENTATION

Because of its rarity and atypical symptoms, its prompt diagnosis is difficult. The initial onset is usually neck or back pain radiating to the corresponding dermatome, which is sometimes vague and ignored until the following cord compression and neurological deficits present (11). Patients with SSEH present with sudden onset of severe back pain, which may radiate to the limbs. Rapid development of neurological symptoms follows because of compression of the spinal cord or the cauda equina. Motor and sensory deficits develop, and patients may have urinary retention (12).

DIAGNOSIS

MRI is considered as the first choice diagnostic method for SSEH (3, 11, 13). It typically shows biconvex hematoma in the epidural space with well defined borders tapering superiorly and inferiorly. Subacute and chronic SSEH are usually hyperintense and less often isointense to the spinal cord on T1-weighted image (9).

On T1-weighted imaging, hematoma commonly displays isointensity within 24 hours and hyperintensity signal 36 hours after symptom onset. On T2-weighted imaging, hyperintense signal is recognized. It should be noticed that SSEH is occasionally misdiagnosed as SSDH on MRI image. Spontaneous spinal epidural hematoma is usually biconvex-shaped, different from the semilunar configuration of SSDH. It is usually sited at the dorsal to the dural sac because of the tight
adherence of the dural sac to the posterior longitudinal ligament. Spontaneous spinal subdural hematoma, on the contrary, mostly are sited on the ventral to spinal cord(10).

DIFFERENTIAL DIAGNOSIS

The differential diagnosis are acute herniated intervertebral disc, acute ischemia of the spinal cord, epidural tumor or abscess, spondylitis, transverse myelitis(6).

TREATMENT

Early surgical intervention is the general treatment for spontaneous spinal epidural hematoma. The procedure includes decompressive laminectomy and hematoma removal(13). On the contrary, nonsurgical intervention was also documented, and it was considered only when neurological deficits improved in the early phase(14, 15, 16). Melanie B et al reported few patients who were treated conservatively and had excellent result in these patients and pointed out that conservative treatment should be undergone in patients who have minimal deficit initially or those who had improved neurologically within 12 hours but this series was unable to discern consistent MR imaging characteristics predictive of successful conservative treatment(10).

PROGNOSIS

Prognosis depends upon many factors like time between onset of symptoms to focal neurological deficit, severity of neurological deficit at the time of diagnosis, segments more than 1 level, if paralysis is more than 36hrs. Best outcome is in those with lumbar region, and children recover faster than adult(5). Furthermore, the shorter progressive interval appeared, the worse prognosis represented. This might be explained as shorter progressive interval denoting quick bleeding and collection of blood in the epidural space, and the spinal cord had no time to adapt to this violent compression. On the contrary, when bleeding is slow, the hematoma could be dispersed, and collection of blood in a local space is delayed. Hence, the spinal cord had more time to adapt to pressure variance(11).

CONCLUSION

In conclusion, SSEH is a rare neurosurgical emergency. It is a critical diagnosis to consider in cases of sudden back pain with symptoms of spinal cord compression. Urgent spinal MRI, correct diagnosis, and decompressive surgery with evacuation of the hematoma is imperative.

REFERENCES

5. Sethi Rangacharya, Neurosurgery Chapter 253 spontaneous intraspinal hemorrhage, 2559