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BMH Med. J. 2020;7(4):6-9. **Case Report**

Spontaneous Epidural Hematoma Of Spine In A Patient On Clopidogrel - A Case Report & Review Of Literature

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Abstract

Spontaneous spinal epidural hematoma is a rare clinical entity. Epidural hematoma without trauma or other mechanical insult are defined as spontaneous spinal epidural hematoma. These patients present with simple to severe acute onset back pain with radiation to the limbs (radiculopathy), or with neurological deficit ranging from paraplegia to quadriplegia. Here we report a case of spontaneous spinal epidural hematoma (SSEH) in a middle aged lady, who is post hysterectomy for carcinoma cervix and post renal transplant, on Clopidogrel for last 15 years for a previous transient ischemic attack (TIA). She had severe acute onset back pain while she was sleeping at night along with radicular pain down her lower limbs. She was evaluated with MRI of the spine which showed epidural hematoma from D11-L2 region. She did not have any neurological deficit. She was managed conservatively and clopidogrel was withheld with excellent clinical outcome. Physicians should bear in mind the possibility of spontaneous spinal epidural hematoma when patients are put on long term anti-platelets for cerebrovascular accidents.

Keywords: Spontaneous Spinal Epidural Hematoma, Clopidogrel, Transient Ischemic Attack

Introduction

Spontaneous spinal epidural hematomas (SSEH) usually present as acute onset severe back pain, which often radiates to the limbs and may or may not be associated with neurological deficit [1]. The incidence of SSEH is around 0.1/100,000 patients per year [2]. This account for <1% of spinal epidural space occupying lesions [3]. Only 5 cases of SSEH associated with clopidogrel are so far reported in the literature, to the best of our knowledge [4]. This is the 6th case being reported. Similarly only 4 cases of aspirin-induced SSEH have been reported [5]. SSEH has been reported in patients with coagulopathies, anticoagulant therapy, blood dyscrasias, pregnancy, and vascular malformations.

Epidural hemorrhage is thought to be caused by rupture of the spinal epidural veins in the

venous plexus surrounding the spinal dura [6]. Increased intrathoracic and intra abdominal pressure causes back flow of blood through the valveless venous plexus. The resultant raised pressure lead to rupture of the epidural veins leading to hematoma. The bleeding is attributed to either arterial or venous rupture. Those hematomas remain liquid for a long time, therefore enabling the spread of the hematoma into the epidural space and hence alleviating compressive symptoms [7]. Here we report the 6th case of SSEH, associated with clopidogrel in a middle aged hypertensive, post hysterectomy, post renal transplant patient. She presented with severe acute back pain radiating down her legs, but without any neurological deficit.

Case Report

A middle aged lady presented with excruciating mid back pain radiating down her lower limbs. The pain started at night while she was asleep without any history of trauma or strain. She was taken to the emergency department and was given pain relieving measures.

She is a known case of renal transplantation and hysterectomy for carcinoma cervix 20 years back. She was on clopidogrel 75 mg for the last 15 years for a transient ischemic attack. On examination, her straight leg raising test was negative bilaterally. She had no neurovascular deficits. Her bleeding time and clotting time were within normal limits. MRI of the thoraco-lumbar spine showed posterior fusiform longitudinally oriented lesion of altered signal intensity spanning between lower end of D11 and upper end of L2 (**Figure 1**). Lesion caused anterior displacement and mass effect on the conus, proximal filum and cauda equina roots. These suggested epidural hematoma. She was managed with bed rest and intravenous analgesics. Clopidogrel was stopped. She was reviewed by nephrologist and neurologist. She was on Azoran, prednisolone 4 mg, metoprolol, Nifedipine and atorvastatin for a long period; ever since the renal transplantation 20 years back. She gradually improved. Her pain subsided and was discharged 3 days after admission and was completely relieved of pain. She was advised to with hold clopidogrel.

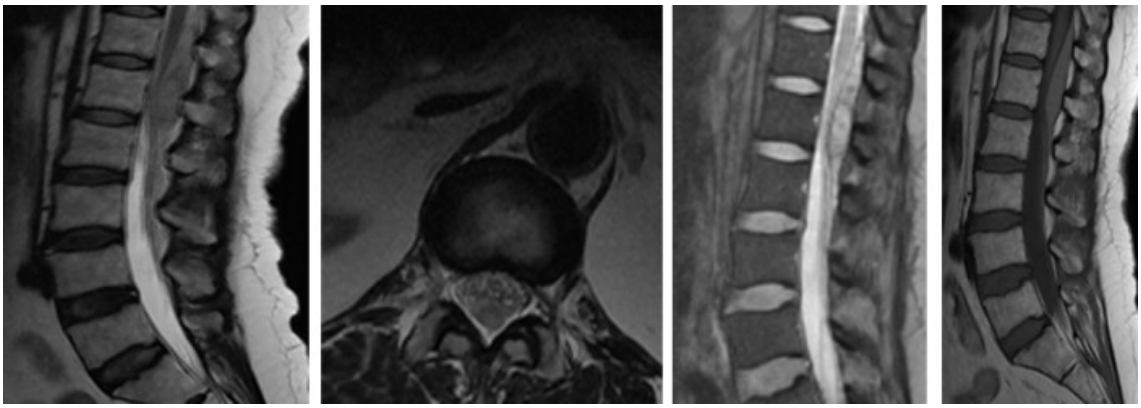

Figure 1: MRI showing epidural hematoma.

Discussion

SSEH with neurological deficit is a surgical emergency [2]. Physicians often put patients on anti-platelet agents like clopidogrel as a prophylaxis for transient ischemic attacks. It is desirable that they are aware of this complication associated with clopidogrel usage. Most common site of SSEH is thoraco-lumbar spine or cervico-thoracic region. The hematoma is usually located posterior to the thecal sac [7[. SSEH mostly occurs after 4th decade of life [3]. Anticoagulants act on Vitamin K (Vitamin K antagonist - warfarin) or on the coagulation

cascade (heparin and its derivatives and direct thrombin inhibitors). Unlike this, anti-platelet agents pose a lower threat of for major bleeding, but this is a rare case of SSEH, even though the common site of complication are the gastrointestinal system and the skin, if at all any [8]. Clopidogrel is an anti-platelet which binds irreversibly to P2(Y12) adenosine diphosphate receptors, which are associated with amplification of platelet aggregation and secretion [1]. Clopidogrel causes an irreversible damage to platelets with a tendency to bleed. Here in this patient there was no history of trauma, anticoagulant use, arteriovenous malformations in MRI, straining, sneezing, lifting, or any other bleeding disorder to account for the hematoma, as everything started all on a sudden at night while she was asleep. Here, considering the mechanism of action of clopidogrel the causal association of the SSEH counts very high. A literature review showed five such cases and this is the 6th case being reported to the best of our knowledge. Here the patient had severe back pain and radicular pain without any neurological deficit. SSEH patients with neurological deficit require emergent intervention to prevent neurological deterioration or augment recovery. Here, since the patient did not have any neurological deficit, she was treated symptomatically along with stoppage of clopidogrel, with excellent clinical outcome.

Patients presenting with neurological outcome require early evacuation of hematoma. Pre-operative neurological status is also a determining factor in neurological recovery. In a meta-analysis of 613 patients with spinal hematomas caused by multiple etiologies [9], patients operated within the first 12 hours had the best prognosis of neurological recovery.

Conclusion

SSEH with neurological deficit is a surgical emergency. There is a growing trend towards anti-platelet prescriptions for prophylactic use in transient ischemic attack (TIA) patients. Treating physician should be aware of this potent risk of SSEH in those patients put on clopidogrel. SSEH patients without neurological deficit can be managed symptomatically.

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