

Nontraumatic spontaneous spinal subdural hematoma

Abstract

We present the case of a 65 year old male that was diagnosed with a spontaneous spinal subdural hematoma (SSSH), the initial symptoms were back pain and right arm numbness with a latter progression to paraplegia and. The MRI detected an SSSH. Despite the prompt diagnosis and surgical intervention the patient didnt improved has it was spected. This case reveal the fact that despite prompt diagnosis and treatment the morbidity and mortality remains high so it is imperative to have a fresh knowledge of this condition and its clinical manifestations.

Keywords: spontaneous spinal subdural hematoma, spinal subdural hematoma, spontaneous spinal hematoma, iatrogenic subdural hematoma, trombolysis related subdural hematoma

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Abbreviations: SSSH, spontaneous spinal subdural hematoma; CNS, central nervous system; ANS, autonomic nervous system; ATP, atepase; MAVS, vascular malformations

Introduction

It is very important to have knowledge about the spontaneous spinal subdural hematoma, this is a very rare and deadly condition that has a high morbidity and mortality rate. More common males on a proportion 4:1 incidence is 1 per 1 000 000 patients. More frequently associated with this clinical conditions; coagulopathies, vascular malformations and iatrogenic causes. A high clinical suspicion is needed to get the diagnosis and it could pass by on a untrained physician, the clinical signs are a manifestation of the spinal cord compression and could not be very specific, despite the fact we have limited time to apply treatment because the compression is progressing. The treatment options are medical therapies and surgical decompression. In this report we present the case of a SSSH with the initial presentation of an acute back pain and a right hand weakness with no identifiable cause.

Case report

A 65 year old man that has been hospitalized since 4 days ago by the cardiologist because of a heart attack, the patient reported feeling a constant pain in the back since the day he was attended in the emergency department, he reported that the clinical characteristics of that pain never changed since its appearance. Today while he was deambulating he felt an augmentation in the pain that hasnt felt before so he went to bed and reported a weakening on the right arm wich he said that has been progressing since the morning, he also reported the feeling of a numbness of the right leg. This prompted medical evaluation by the Neurology Department.

At the time of the Neurologist valoration the patient referred to have a loss of strength on both legs and reported a strange sensation in the left hand.

On examination the patient had 3/5 strength in his left arm, 0/5 in his right arm, 1/5 in his bilateral lower extremities, deep tendon reflexes

were absent. The patient had sensory loss in the left hemibody and a postvoid residual of 800cc. He had a history of receiving ATP the day he was attended on the emergency department 4 days ago and was under prescription of anticoagulation by the cardiologist.

Laboratory data revealed an elevated WBC count of 13.6 / μ L (3.7–10.5), platelet count of 250,000/ μ L, an international normalized ratio of 1.18 (<4.0), partial thromboplastin time of 27.9 seconds (22.4–33.2), prothrombin time of 16.2 seconds (9–12) and lactate dehydrogenase 292/ μ L (29–200) A cervical magnetic resonance imaging (MRI) without contrast was performed. T1 and T2 wighted images revealed an intradural extramedullary hipointense subdural T2 signal (Figure 1) and hiperintense T1 signal located in the posterior región of the spinal cord spanning C2 to C7 causing displacement and compression of the thecal sac. High t2 signal revealed cord edema. Angiotomography of the cervical spine revealed no evidence of vascular malformations.

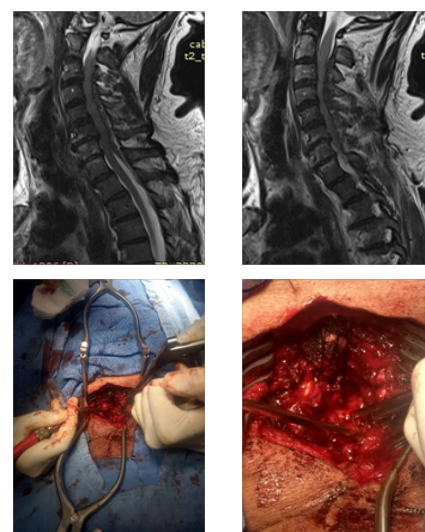


Figure 1 weighted images.

Surgical technique

The patient was positioned in Concorde with the head fixed with a donut made from gauze and bandages, care avoiding pressure in the eyes was made. A midline skin incision from C3 to T1. Monopolar electrocautery is used to continue the dissection in the midline. The ligamentum nuchae is divided and dissection continued to split the splenius capitis fascia. The plane between the semispinalis capitis musculature is then entered. Spinous process is palpated in order to keep the dissection in the midline, the avascular plane. A subperiosteal dissection is then performed to mobilize the remaining paraspinal musculature and expose the spinous processes C5, C6 and C7. A C5, C6 laminectomy and C7 right hemilaminectomy was performed for avoiding cervical instability. Ligamentum flavum is then resected with Kerrison punch. The dura mater was coagulated with bipolar forceps and with # 11 blade, dura mater was open in a vertical fashion; then, the subdural hematoma was visualized and drain with the bipolar and aspirator. The remaining subdural hematoma localized in the rostral subdural space was drain hydro dissection and #4 Pelfield. No other pathologic findings were encountered in the subdural space or spinal cord. Cellulose hemostatic was placed in the surgical bed. Then closure was completed in watertight fashion. The deep and superficial muscle layer is closed in two levels. Skin incision is closed with continuous suture.

After the surgery he remained one week on the intensive care unit because of the ANS manifestations. Two week after the operation the patient regain strenght in bilateral upper extremities in 4/5 and the sensory loss of left hemibody improved, lower extremities strenght and bladder control remain the same. The next week after the surgery the patient had no clinical changes so it was discharged with a follow up of rehabilitation medicine..

Discussion

Patients that present with a progressive motor deficits plus the bladder control disfunction are in need of an urgent evaluation by a Neurologist because the SSSH could be mistaken by another CNS condition. After the diagnosis of the SSSH there should be an intentional search for a underlying cause like coagulopathies, drugs, MAVS and iatrogenic causes. This case is illustrative of a direct consequence of the treatment for the acute myocardial infraction. In patients with acute neurological deficits an agresive treatment is needed, in patients with minor symptoms the medical treatment should be considered because some of the SSSH present a spontaneous resolution.¹⁻¹²

Conclusion

The SSSH is a medical condition that has a high mortality and morbidity, it requires a high degree of suspicion to get the diagnosis and a prompt surgical treatment, the success of the treatment depends on the time of diagnosis, so it is imperative to have a clear knowledge of this condition and its causes.

Acknowledgments

None.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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