

## Case Report

# Delayed presentation of spinal foreign body – Case report and review of literature

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## Abstract

**Background:** Although spinal cord injuries are frequent causes of myelopathy in young patients, stab wounds of the spinal cord rarely occur and are typically maximal symptomatic immediately after the trauma.

**Case Description:** A 31-year-old male developed delayed onset of symptoms 4 years after a stab wound to the cervical spinal cord attributed to a plant needle (plant called Mandacaru). Following removal of the foreign body and decompression/excision of scarring at the C34 level, the patient's symptoms resolved.

**Conclusion:** Surgical excision should be encouraged to remove chronic penetrating foreign bodies to both decompress and untether the spinal cord.

**Key Words:** Delayed myelopathy, spinal cord injury, stab injury, surgical treatment

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## INTRODUCTION

Spinal stab wounds account for 8–11% of all penetrating spinal injuries and almost all injuries are acute.<sup>[1-4,6-8]</sup> Rarely, patients may become symptomatic several months to even years following the original trauma. Here, we describe a patient who sustained a penetrating injury to the cervical spinal cord at the C3-C4 level attributed to a needle from a plant called Mandacaru. Postoperatively, following decompression and excision of the needle, the patient's myelopathic symptoms resolved.

## CASE REPORT

A 31-year-old white male presented with a progressive spastic quadriparesis over 1-year duration. Four years previously, he had fallen from a horse into a tree called Mandacaru (*Cereus jamaracu*) in northeast Brazil. At the time of the injury, the patient had several skin wounds but no neurological symptoms or signs. Four years later, he presented with new onset of spastic tetraparesis

characterized by motor 4/5 strength in the upper and lower limbs; he could only ambulate with assistance.

While plain radiographs of cervical spine revealed upper cervical kyphosis, computed tomography (CT) scan [Figure 1] demonstrated a foreign body resembling a needle that entered the spinal canal through the left C3-C4 foramen. Magnetic resonance imaging (MRI) [Figure 2] demonstrated extensive edema in the cervical spinal cord and enhancement with gadolinium of tissue surrounding the foreign body.

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The needle was removed utilizing a left side approach to the left C3-C4 foramen. (Hodgson-like approach<sup>[4]</sup> posterior-lateral view).

A 5-cm thorn was removed [Figure 3]; of interest, there was no cerebrospinal fluid (CSF) leak. The postoperative course was uneventful and he continued to improve over the next 6 months.

## DISCUSSION

There are seven reported<sup>[1-3,5-7,9]</sup> cases of delayed symptoms (8–30 years) involving stab wound injuries to the spinal cord [Table 1].

### Mechanism of injury

The foreign body usually enters the spinal canal via the interlaminar space or through the intervertebral foramen. The delayed onset of neurological deficits are typically attributed to retained fragments within the spinal canal. These lesions may transfix the spinal cord causing slow progressive damage due to tethering<sup>[9]</sup> (e.g., as the cord is no longer free to move with normal body movements). Residual surrounding fibrosis may also maintain tethering after surgical extirpation.

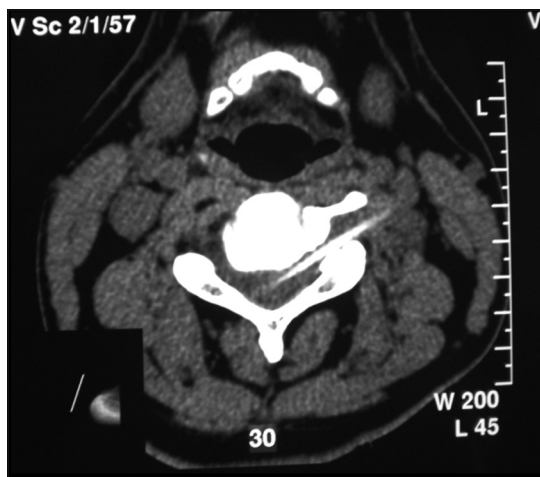


Figure 1: Computed tomography scan showing entrance of the thorn through left C3-C4 foramen

## CONCLUSION

Few patients exhibit delayed onset of symptoms following penetrating injuries to the spinal cord. If delayed neurological deterioration occurs, patients should be reassessed with X-ray, MRI, and CT to demonstrate the site, location, and type of penetrating lesion and whether it has been adequately excised, or whether there is a residual foreign body. Repeated surgical intervention, offering decompression and untethering, may or may not result in neurological recovery.

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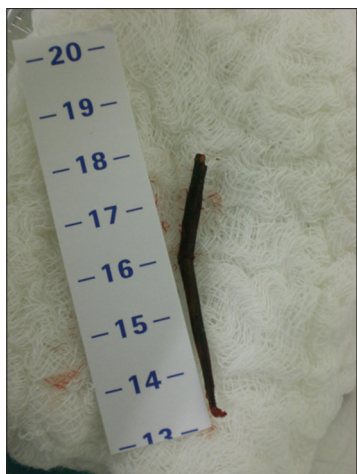
Nil.



Figure 2: Magnetic resonance imaging showing gadolinium enhancement of the spinal cord

Table 1: Reported cases of delayed onset of symptoms after spinal cord stab wound

Author	Clinical presentation	Foreign body	Time to symptoms	Outcome
Wu <i>et al.</i> <sup>[9]</sup>	right leg pain, numbness both legs	Bamboo stick	1 year	Improvement after surgery
Lunawat and Taneja <sup>[7]</sup>	Paraparesis	2 pieces of wood	6 years	Incomplete recovery
Kulkarni <i>et al.</i> <sup>[6]</sup>	Right leg numbness	Metallic (Knife)	4 weeks	Remained the same
Fung and Ng <sup>[2]</sup>	Paraparesis	Metallic	15 years	Improvement after surgery
Criado <i>et al.</i> <sup>[11]</sup>	Pain	Wood	3 months	Improvement after surgery
Herr and Barrett <sup>[3]</sup>	Brown-Sequard syndrome	Metallic (penknife)	1 week	Incomplete recovery
Jones and Woosley <sup>[5]</sup>	Paraparesis	Metallic (knife)	8 years	Incomplete recovery



**Figure 3:**The 5-cm thorn

### Conflicts of interest

There are no conflicts of interest.

### REFERENCES

1. Criado E, Oller D, Fulghum J. Delayed diagnosis of a foreign body in the spinal canal. *South Med J* 1990;83:332-3.
2. Fung CF, Ng TH. Delayed myelopathy after a stab wound with a retained intraspinal foreign body: Case report. *J Trauma* 1992;32:539-41.
3. Herr RD, Barrett J. An unusual presentation of Brown-Sequard syndrome. *Ann Emerg Med* 1987;16:1285-8.
4. Hodgson AR. Approach to the cervical spine C3-C7. *Clin Orthop* 1996;39:129-34.
5. Jones FD, Woosley RE. Delayed myelopathy secondary to retained intraspinal metallic fragment. Case report. *J Neurosurg* 1981;55:979-82.
6. Kulkarni AV, Bhandari M, Stiver S, Reddy K. Delayed presentation of spinal stab wound: Case report and review of the literature. *J Emerg Med* 2000;18:209-13.
7. Lunawat SK, Taneja DK. A foreign body in the spinal canal. A case report. *J Bone Joint Surg Br* 2000;82:267-8.
8. Skadorwa T, Ciszek B. Pediatric arrow shot injury to cervical spinal cord-sagittal cord transection with no neurological deficit and good outcome: Case report and review of literature. *Childs Nerv Syst* 2013;29:1933-9.
9. Wu QH, Chen WS, Chen QX. Delayed myelopathy after stab injury with intraspinal non metal foreign body granuloma. *Chin J Traumatol* 2008;11:126-8.