



Case Report

Retained foreign needle in the thoracic spinal canal in a child: Case report

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ABSTRACT

Background: The presence of retained foreign bodies in the spinal canal has been reported in the literature. They are attributed to retained pieces of medical equipment after surgery, or, following trauma, to residual bullets, glass fragments, or knife blades. Although some retained materials do not cause any neurological deficits in the short run, others may become symptomatic months later.

Case Description: A 2-year-old male presented with a history of intermittent fever and mild lower extremity weakness. Notably, the original infectious workup was negative. However, a noncontrast CT scan later documented a needle-shaped foreign body in the spinal canal at the T10 level. During the T10 laminectomy, a needle (i.e. from a medical syringe) was removed, the patient remained neurologically intact. The foreign body turned out to be a medical syringe needle tip.

Conclusion: A 2-year-old male presented with fevers and mild lower extremity weakness attributed to an intraspinal needle tip found utilizing CT at the T10 level. T10 laminectomy allowed for removal of a small needle tip. This shows the importance of removing retained spinal foreign bodies to avoid further/future neurological injury, and/or the potential risks/complications of foreign body migration/sequestration.

Keywords: Spinal needle, Retained foreign body, CT myelography, CT spine, Pediatric

INTRODUCTION

The presence of retained foreign bodies in the spinal canal has been reported in the literature. They have been attributed to retained pieces of medical equipment after surgery, or after trauma, to retained bullets, glass fragments, or knife blades. Some of the retained material did not cause any neurological deficits in the short run, while others may contribute to new deficits months later.

CASE PRESENTATION

A 2-year-old male presented with fevers, leukocytosis (studies were only positive for leukocytosis with WBC of 179,000/cu.mm), and mild lower extremity weakness. The thoracic CT scan showed a needle-shaped foreign body in the spinal canal at the level of T10 level [Figure 1].

CT myelography documented the presence of a linear radiopaque foreign body (likely a pin/needle) in the spinal canal at the T10 level traversing from the right pedicle to the left neural

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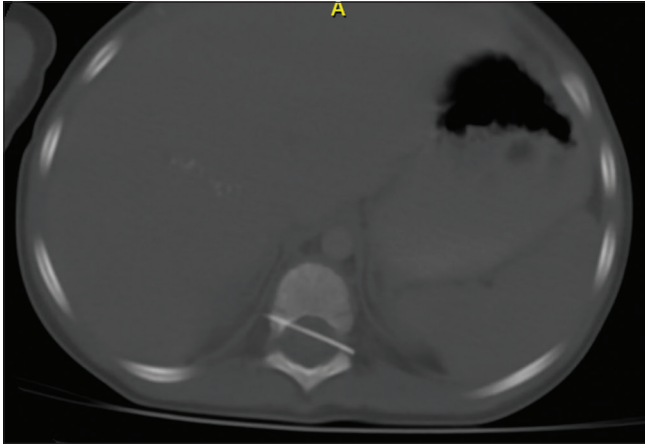


Figure 1: CT Chest and Abdomen bone window showing Linear radio-opaque foreign body in the spinal canal at the level of the T10 vertebra traversing from the right pedicle to the left neural foramen.

foramen; it appeared to be traversing the anterolateral aspect of the cord with no clear contrast separating it from the cord.

The patient underwent a T10 laminectomy for removal of the foreign body that proved to be a medical syringe needle tip [Figure 2]. As the needle traversed the spinal canal, intraoperative monitoring including motor evoked potentials was utilized. There were no significant intraoperative changes. Indeed, postoperatively, the patient's mild lower extremity weakness resolved progressively after 2-week follow-up and his gait improved after 6 weeks from OR date.

DISCUSSION

It has been reported that foreign bodies as needles or wires can migrate into the spinal canal over time and cause nerve injuries.^[5] Retaining them for longer periods can cause reactive tissue that can lead to neurological deficits that occur when the neural elements around the foreign body are no longer capable of adjusting to the new changes caused by the presence of this material, thus rendering the need for surgical removal.^[4] However, in some reported cases, after failed surgical attempts, the foreign fragment remained retained in the spinal canal with no neurological complications on continuous follow-up appointments.^[2] It was found out that the “spring phenomenon” could push foreign bodies to penetrate into intradural space advancing the object closer to the cord or nerve roots.^[1] Several cases were also reported of spinal foreign body granulomas from retained pieces of surgical instruments in the paravertebral soft tissues and extramedullary space, which are sometimes confused with neoplasm.^[3] CT and radiographs are considered the first line imaging modalities when dealing with acute penetrating injury or suspected metallic foreign body, although MR has been shown to be a safe option.^[3]

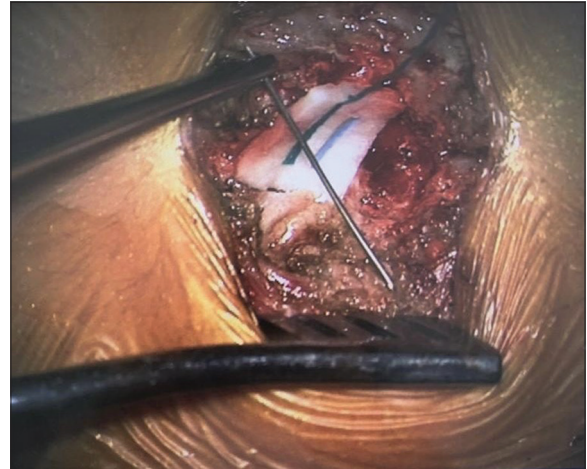


Figure 2: Intraoperative view showing the spinal needle.

However, MR can fail to show the foreign body when it is small or nonferromagnetic.^[3]

According to most of the reported case reports in the literature, it was opted to remove foreign bodies surgically to avoid any future damage to the cord or neural elements.

Here, we chose surgical intervention after documenting the presence of the foreign body on imaging studies (i.e. CT scan and CT myelogram).

CONCLUSION

A 2-year-old male presented with fever, leukocytosis, and mild lower extremity weakness. Although the infectious workup was negative, the noncontrast CT documented a metallic foreign body at the T10 level that was removed; it proved to be an entrapped spinal medical needle tip. Here, we highlight the importance of removing retained spinal foreign bodies to avoid future long-term neurological injury or foreign body migration.

Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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