

# Commentary on: “Bullet Fragment of the Lumbar Spine: The Decision Is More Important Than the Incision”

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Gunshot wounds (GSWs) to the spine used to be a rare event, but with the increase of small arm intercity trauma, GWSs have increased to account for 13 to 17% of all spine injuries.<sup>1</sup> The classic patient is a 30-year-old man from a low-income background who got into a fight and ends up in the hospital after being shot with a pistol.<sup>2</sup> Most of these injuries cause devastating harm. The extent of injury depends on the level of entrance and the trajectory the bullet took in the spine. Most gunshot injuries are at the thoracic levels of the spine, with lower rates in the cervical and lumbar spine. In cervical cases, most patients are quadriplegic, but in the cauda equine, patients who come in with an incomplete spinal cord injury have a favorable outcome.<sup>3</sup> Moisi et al presented a case in which the bullet caused worsening leg symptoms that led to the removal of the fragment with an immediate improvement in patient's symptoms.

The care of the patient presenting with a spinal GSW is similar to any penetrating injury; it is managed according to the Advanced Trauma Life Support guidelines,<sup>5</sup> in which the patient is evaluated according to life-threatening conditions using “ABCDE” (airway, breathing, circulation, disability, and exposure).<sup>4</sup> Only after the primary survey is completed should the spinal lesion be treated. Most GSWs to the spine are not isolated injuries, and these penetrating injuries cause multi-organ damage leading to emergent surgical intervention.

The care to the spinal injury includes tetanus vaccination unless the patient was known to have received the vaccination in the past 5 years and broad-spectrum antibiotics for 48 to 72 hours; these antibiotics should be modified according to the adjacent organs that are injured from the GSW. Surgical treatment of GSWs in the spine remains controversial. The only absolute indication for surgery in spinal GSW is the presence of progressive neurologic deficit associated with compression of neural elements in imaging examinations or a fistula of cerebrospinal fluid leading to the skin or the pleura.<sup>3</sup>

Incomplete injuries without deterioration have been shown to improve in over 70% even without surgery, so surgery is not needed on a routine basis. In cases in which the GSW causes instability to the spine, stabilization and at times decompression is needed. Other indications for surgery are a bullet location that is at risk for migration (inside the disk or intracanal) and toxicity (articular or intracanal). Unlike the case presented here, the removal of the bullet is not often associated with the resolution of the pain,<sup>3</sup> which requires the administration of drugs, such as tricyclic antidepressants and neuroleptic medication.

In summary, the increase of GSWs has led to a surge in spinal cord injuries that may need more care and surgery by the hospital team. Sadly, the prognosis of the spinal cord injury is determined more by the injury and less by the care given in the hospital, and surgical intervention should be considered only in indicated cases.

## Disclosures

None

## References

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