



(CASE REPORT)



## A case report on gunshot injury to spinal cord injury

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### Abstract

**Introduction:** We describe the operational and rehabilitative management of a patient who suffered a spinal cord injury as a result of a high-velocity gunshot wound to the lumbar spine, as well as the patient's outcome. A patient with a gunshot wound to the spine, in particular, is more likely to suffer a full injury and have a terrible prognosis. As a result, there should be concerns about bullet fragmentation-related injuries, as well as the risk of long-term consequences.

**Clinical finding:** Back discomfort that is unbearable or pressure in your neck, head, or back. Weakness

**Diagnostic Evaluation:** Blood test: Hb:-9.8gm%, Total RBC count 3.8 million /cu mm, RDW-13.3 % HCT:- 43% Total WBC count -4,300/cu mm, Monocytes :-02%,Granulocytes:-1,600 $\mu$ L,Lymphocytes-2,300/ml, Gunshot AST(SGOT)-8 $\mu$ /l

**Outcome:** After received treatment, the point show improvement and abdomen pain were relieved

**Conclusion:** Mr. Rajendra Gedam admitted in AVBRH for elective spinal cord injury repair on. He having problem while sitting.

**Keyword:** Forensic ballistics; Gunshot Injury; Spinal cord injury; Wound

### 1. Introduction

Gunshot wounds are one of the most common causes of spinal cord injuries, accounting for 13% to 43% of all such injuries worldwide. Furthermore, spinal cord injuries caused by gunshot wounds have a higher rate of total injury and worse results than those caused by physical trauma<sup>1</sup>.

Gunshot wounds are often split into two categories: those caused by high-velocity weapons such as pistols and handguns, and those caused by low-velocity weapons such as pistols and handguns. Nonmilitary gunshot wounds are more likely to be caused by low-velocity weapons than military gunshot wounds. Injuries from high-velocity weapons, on the other hand, have recently increased among civilians<sup>2</sup>.

- **Present medical history:-** A male person of 38year old was brought to AVBRH on 27 August 2021 with a complain of spine problem and pain and he is admitted to ortho ward .He is known case of spinal cord injury
- **Past medical history:** Mr. Rajendra Gedam admitted in AVBRH with no past medical history.
- **Family History:** There are four members in the family. My patient was diagnosed to have spinal injury and having gunshot wound. All other member of the family were not having complaint in their health except for my patient who was being admitted in the hospital.

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- **Clinical findings :** Back pain, fever
  - **Etiology:-**Spinal cord injury develop when the any accidental injury happen or any gunshot wound is deeply happen.<sup>3</sup>
  - **Physical examination:** There is not much abnormality found in head to toe examination, he is having dull look. He is weak and not so cooperative. Though it is found that the patient having pain in back.
  - **Diagnostic assessment:-**Blood test: Hb:-8.8gm%,Total RBC count 3.8 million /cu mm ,RDW-13.3 % HCT:- 43% Total WBC count -4,300/cu mm, Monocytes :-02%,Granulocytes:-1,600 $\mu$ L,Lymphocytes-2,300/ml, Gunshot AST(SGOT)-8 $\mu$ /l
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## 2. Discussion

A patient with damage to the spinal cord and aorta wall as a result of a high-velocity gunshot wound is detailed in this article. Soldiers are most commonly injured by gunfire fired at velocities more than 2,000-3,000 feet per second, whereas low velocity injuries are caused by gunshots fired at 1,000-2,000 feet per second. Comminuted fractures, devitalized soft tissue, and periosteal stripping are all symptoms of high-velocity gunshot injuries. When compared to low velocity gunshot wounds, the extent of bullet fragmentation grows in lockstep with velocity, resulting in more severe destruction due to a wider range of tissue damage. As a result, high-velocity gunfire have a greater fatality and morbidity rate than low-velocity gunshots<sup>3,4</sup>.

The AR-15 rifle has a bullet that can travel at speeds of up to 3,200 feet per second, making it a high-velocity weapon. As a result of the weapon's tremendous power, our patient had a burst fracture of the first lumbar vertebra, resulting in complete paraplegia and acute neuropathic pain, as well as an aortic injury caused by an impacted bullet fragment in the posterior wall of the abdominal aorta. Multiple gunshot pieces lodged in the T12-L1 disc and L1 prevertebral regions were also unable to be removed<sup>5,7,8</sup>.

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## 3. Conclusion

Patient received treatment for gunshot injury to spinal cord. It's a challenging case and need close observation with accurate treatment to improve patient condition. Also physiotherapist helps to recovery of the patient with guidance of orthopedician. Patient discharge after treatment and advice to come for follow up after 15 days. Medical Practitioners learn about how to treat the cases with various challenges.

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### Compliance with ethical standards-

#### *Statement of informed consent*

While preparing case report and for publication patient's informed consent has been taken. Patient Informed consent was taken.

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