



(CASE REPORT)



## Emergency management and successful nephrectomy-splenectomy for blunt renal and splenic trauma caused by stabbing in an adolescent

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### Abstract

This case report presents the management of a 17-year-old adolescent stabbed by a sharp knife resulting in hemorrhagic shock. Upon arrival at the emergency department, the patient had a 3 cm left flank wound and was hemodynamically unstable. Due to the urgency of the situation, surgical exploration was performed without prior imaging. The exploration revealed a 4 cm renal injury and a 3 cm splenic injury, leading to the performance of nephrectomy and splenectomy for urgent hemostasis. The patient was subsequently admitted to the intensive care unit for 10 days and made a successful recovery. This case emphasizes the importance of promptly and appropriately managing renal and splenic trauma caused by stabbing incidents.

**Keywords:** Renal injury; Splenectomy; Nephrectomy; Hemorrhagic shock

### 1. Introduction

Stabbing incidents leading to renal trauma require immediate surgical intervention. Unfortunately, these incidents are prevalent in our society and can have devastating consequences. Stabbing weapons can directly impact the lumbar or abdominal region, resulting in renal injuries and potential damage to adjacent organs such as the spleen. In this case report, we describe the presentation of a 17-year-old patient who experienced hemorrhagic shock following a stabbing incident. The patient presented with a left flank wound, prompting immediate surgical exploration without prior imaging. During the procedure, a 4 cm renal injury and a 3 cm splenic injury were identified. Nephrectomy and splenectomy were performed to control bleeding and save the patient's life.

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**Figure 1** Nephrectomy



**Figure 2** Splenectomy

This case highlights the significance of thorough clinical evaluation and prompt decision-making in the management of renal trauma caused by stabbing. It also sheds light on the challenges faced by healthcare professionals when caring for young victims of violence.

## 2. Discussion

The surgical management of renal trauma caused by stabbing aims to control bleeding and prevent complications. In this case, nephrectomy and splenectomy were performed to achieve these objectives. Postoperative complications may include infections, urinary fistulas, hematoma formation, and damage to adjacent organs. Close follow-up, appropriate postoperative care, and measures to prevent complications are crucial for optimizing outcomes.

Voelzke et al. s (2020) article in Campbell-Walsh Urology emphasizes the urgent nature of managing renal trauma, particularly in cases of penetrating injuries. The decision to proceed with immediate surgical exploration without prior imaging in this case aligns with this approach, as it avoids potential treatment delays and enables prompt control of bleeding (1).

Scales et al. s (2017) practical tips for identifying high-quality case reports stress the importance of clear presentation of clinical information and results, as well as critical analysis of findings in relation to existing literature. In this case report, precise details were provided regarding the patient's clinical condition, the injuries identified during surgical exploration, and the interventions performed to control bleeding (2).

Bruce et al. s (2018) and Morey et al. s (2014) studies address the management of renal trauma, focusing on treatment options and management guidelines. In this case, performing nephrectomy and splenectomy for hemostasis to control bleeding and preserve the patient's life aligns with the recommendations for managing such injuries (3,4).

Kuan et al. s (2017) and Gopinath et al. s (2016) articles provide additional insights into the overall management of renal trauma in adults, emphasizing the importance of close follow-up and appropriate postoperative care to prevent

complications and optimize long-term clinical outcomes. In this case, the patient's 10-day admission to the intensive care unit aligns with the recommendations for monitoring and postoperative support in severe renal trauma cases (5,6).

It is important to note that preventing violence and aggression is a crucial component in the management of renal trauma caused by stabbing. Raising awareness, providing education, and implementing preventive measures are necessary to reduce the incidence of such assaults, particularly among young individuals.

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### 3. Conclusion

In conclusion, this case report on the management of blunt renal and splenic trauma caused by stabbing in an adolescent aligns with current knowledge in the medical literature. The decision to proceed with immediate surgical exploration without prior imaging, performing nephrectomy and splenectomy for hemostasis, and providing subsequent monitoring and postoperative care all adhere to existing recommendations for managing these types of injuries. However, further studies are needed to refine management strategies and evaluate long-term outcomes in patients with renal trauma caused by stabbing.

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### Compliance with ethical standards

#### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

#### *Statement of ethical approval*

The present research work does not contain any studies performed on animals/humans subjects by any of the authors'.

#### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study. ( YES)

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