

# The Fall That Almost Killed: Delayed Adrenal Haemorrhage in Blunt Abdominal Trauma

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## Introduction

Adrenal gland injuries are uncommon in blunt abdominal trauma, with an incidence of 2-3% in major trauma cases.

## References:

Papadopoulos, K. S., Strigklis, K., Kordeni, K., Xaplanteri, P., & Zacharis, G. (2020). Adrenal gland injury after blunt abdominal trauma: Two case series and review of the literature. *International Journal of Surgery Case Reports*, 67, 34-38. doi:10.1016/j.ijscr.2020.01.021

## Case Description

48-year-old man with DM and HPT presented to the ED in peri-cardiac arrest, requiring CPR, with ROSC achieved after five cycles. History revealed a fall in the bathroom a day before under alcohol influence, followed by left-sided chest pain. He initially sought care at a private clinic, where he was given analgesics after a normal chest X-ray.

E-FAST detected free fluid in Morrison's pouch, he was in massive hemorrhagic shock, prompting MTP activation. The WBCT showed a large mixed-density hematoma in the left upper abdomen with multiple ribs fracture but the bleeding source was unclear. Thus, decision was made for emergent damage control surgery.

Intraoperatively, a zone 2 left adrenal gland adenoma with active bleed, bilateral grade 3 kidney injury, grade 2 splenic injury, grade 1 liver injury, laceration over tail of pancreas were identified as the primary sources of hemorrhage, with hemoperitoneum of 5 litres.

## Discussion

Bleeding trauma patients can lead to irreversible shock and multi-organ failure. When trauma patients have hypotension and tachycardia that is disproportionate to the apparent injuries or unresponsive to fluid and blood resuscitation, high index of suspicion is necessary. While uncommon, like in this case, adrenal gland injuries can be a silent killer.

Adrenal glands are small encapsulated retroperitoneal organs with rich arterial supply. Injuries can initially mask the bleeding and cause capsule rupture later, leading to rapid decompensation and delayed presentation. In this case, e-FAST identified intra-abdominal free fluid but WBCT failed to locate the bleeding source. Therefore, incorporating adrenal injury into differential diagnosis in such patients can improve outcomes.

Figure 2 : EBL 11L



Figure 3 : Left adrenalectomy and splenectomy done

## Conclusion

This case underscores the limitations of CT in detecting adrenal injuries and highlights the critical role of clinical judgment in guiding emergency surgical intervention. It reinforces the need for early suspicion, serial imaging and prompt surgical exploration in cases of trauma of unexplained hemorrhagic shock.

## Keywords

Adrenal Gland, WBCT, Trauma

