

## IMAGES IN EMERGENCY MEDICINE

Imaging, trauma

## Man with trauma after fall from height

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## 1 | PATIENT PRESENTATION

A 35-year-old man was sent to the emergency department after falling 5 stories. He was found face down on the ground. On arrival, the patient's vital signs were: blood pressure, 62/34 mm Hg; body temperature, 38.2°C; pulse rate, 125 beats/min; and respiratory rate, 26/min. Physical examination revealed drowsy consciousness and deformities over bilateral lower legs. The focused assessment of sonography for trauma revealed no free fluid. Whole body computed tomography (CT) was performed to determine cause of shock (Figures 1 and 2).



**FIGURE 1** Axial view of the retroperitoneal space at the level of thoracolumbar junction, demonstrating the bilateral retrocrural hematomas over the T12 spine level (solid arrow) without contrast extravasation or adjacent aortic/thoracolumbar vessel injury



**FIGURE 2** Sagittal view of the lumbar spine, demonstrating the L4 spine fracture (solid arrow) that is not adjacent to the levels of retrocrural hematomas (arrow head)

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## 2 | DIAGNOSIS

### 2.1 | Traumatic retrocrural hematoma

CT showed bilateral retrocrural hematoma from T11-L1 level (Figure 1) and L4 vertebral fracture (Figure 2), as well as bilateral leg fractures. No active bleeders could be identified. He was successfully resuscitated with fluid therapy and blood transfusion and discharged on the 50th day.

The retrocrural hematoma, a kind of retroperitoneal hematoma, is defined as hematoma occurring in retrocrural space, a small triangular region bordered by the two diaphragmatic crura.<sup>1</sup> Causes of traumatic retrocrural hematoma include tearing of the anterior longitudinal ligament at the adjacent fractured thoraco-lumbar vertebra or hemorrhage produced by disruption of the small anterior vertebral branching arteries and venous plexus.<sup>1</sup> High-energy impact, coagulopathy, and pathologic spine disease are the risk factors. Clinical manifestations are non-specific; however, delayed diagnosis may result in morbidity and mortality.<sup>2</sup> Focused assessment of sonography for trauma has limitations for detecting retroperitoneal hemorrhage. CT can be a better imaging modality for evaluation and diagnosis.

Traumatic retrocrural hematoma is a rare condition with a mortality rate reported to be as high as 18%–60%.<sup>3</sup> Therefore, it must be considered in hemodynamically unstable trauma patients. The management for traumatic retrocrural hematoma in unstable patients includes emergency laparotomy and transarterial embolization.<sup>4</sup>

## AUTHOR CONTRIBUTIONS

HY-T described the case and drafted the manuscript. LWC performed the literature search and jointly wrote the manuscript. Both authors read and approved the submitted version of the manuscript.

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