Rare but Foreseeable: Rapidly Expanding Retropharyngeal Hematoma After Fall from Height

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Case Presentation: An elderly man presented to the emergency department after a fall from a 15-foot height. Initial examination revealed signs of head and neck trauma without airway compromise. Computed tomography imaging identified cervical fractures at the first and second level with a retropharyngeal hematoma. In discussion with the trauma service, the patient was admitted to the hospital for airway monitoring. After 10 hours he clinically deteriorated, resulting in acute respiratory failure, and ultimately required intubation. The patient was intubated with a hyperangulated video laryngoscopy, and a surgical set-up was also prepared. The intubation was uncomplicated and resulted in clinical improvement. The patient was extubated after three days without difficulty and was ultimately discharged following an uncomplicated hospital course.

Discussion: Retropharyngeal hematoma is a rare but significant clinical condition. Rapid decline and airway compromise have been described. Patients often require intubation and mechanical ventilation to avoid airway obstruction and respiratory failure. Coagulopathies should be reversed, if present. Prompt recognition and treatment of this condition is crucial to successful management.

Keywords: Critical care; airway; trauma; retropharyngeal hematoma.

CASE PRESENTATION

A 79-year-old man with Parkinson dementia presented to the emergency department after an unwitnessed fall from a 15-foot ladder. The patient was amnestic to the event. He did not take anticoagulant or antiplatelet medications. He had facial bruising on exam and midline cervical spine tenderness, but no stridor or increased respiratory effort. The trauma team was activated, and the patient underwent emergent computed tomography, including arterial angiography of the head and neck (Image 1 and 2) as part of routine screening for blunt cerebrovascular injury. These images revealed displaced fractures at the first and second cervical levels with associated active retropharyngeal hematoma at the level of the hypoglottis. Computed tomography of the chest, abdomen, and pelvis were also obtained as part of a trauma Level 1 activation order.

Image 1. Computed tomography neck angiography demonstrating retropharyngeal hematoma with contrast extravasation (arrow) at the third and fourth cervical level, sagittal view.
Retropharyngeal hematoma is rare. Displaced cervical fractures and anticoagulant use are risk factors for retropharyngeal hematoma and may cause airway compromise.

What is the major impact of the image(s)?
The images demonstrate that the retropharyngeal space is small. Even relatively minor bleeding in this space can compress airway structures and cause respiratory failure.

How might this improve emergency medicine practice?
This disease may go unrecognized initially as signs of airway compromise may be delayed. Standard and surgical airway set-ups should be prepared if the airway must be controlled.

to avoid disruption of the hematoma. High suspicion and prompt management are necessary to successfully treat patients present with retropharyngeal hematoma. Definitive treatment may include arterial embolization or decompressive surgery, although conservative management is often adequate.

The authors attest that their institution requires neither Institutional Review Board approval, nor patient consent for publication of this case report. Documentation on file.

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