

## Distracted by Distracting Pain: Delayed Cervical Spine Fracture Diagnosis in a Multiple Injuries' Patient; The Importance of Dynamic Clinical and Radiographic Assessment

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### INTRODUCTION:

Missed cervical fracture especially in the setting of polytrauma is common and may lead to severe consequences. Understanding the causes of the error is essential for optimizing patient care and preventing debilitating complications. This case report aimed to highlight the importance of distracting pain in masking possible cervical fracture and the need for dynamic continuous assessment to prevent such occurrence. The highlighted cause in this particular case is distraction by the distracting pain.

### REPORT:

We present a case involving an 18-year-old girl who was in a motor vehicle accident (MVA). The patient, a motorbike rider wearing a secured helmet, was traveling at a moderate speed when a car collided with her at a junction. The exact mechanism of injury remained uncertain to her. Following the trauma, the patient complained of pain and noticed deformity in both arms. Despite this, she retained the ability to walk, did not experience loss of consciousness or retrograde amnesia, and denied any neck or back pain.

Upon evaluation in the Emergency Department (ED), vital signs stable, GCS full. Physical examination showed a 4x4cm open wound on the anteromedial aspect of the left arm with minimal bleeding. Bilateral arm deformity raised suspicion of a humerus fracture. However, thorough examination from head to toe yielded negative results, with no cervical tenderness or neurological deficits detected.

The patient's primary concern in the ED was the pain in both arms, for which intravenous tramadol and fentanyl were administered to alleviate discomfort. X-rays done, revealing mid-diaphyseal fractures with comminution in both humeri.

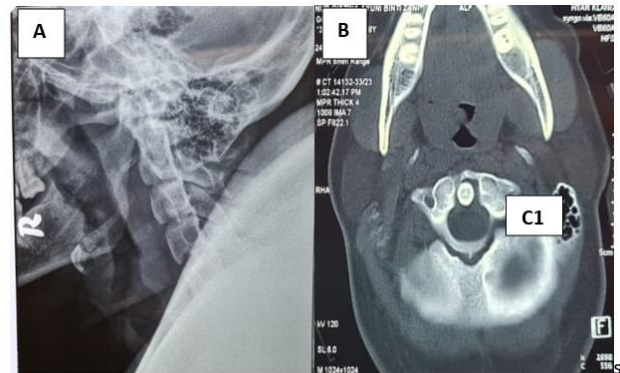


Figure 1; A: Cervical radiograph (lateral view) B: Anterior arch C1 fracture

A cervical X-ray showed no obvious fractures. Subsequently, the patient was admitted to the ward following the application of bilateral upper limb u slabs.

Further assessment in the ward revealed cervical tenderness, despite a normal neurological examination. A computed tomography (CT) scan of the brain and cervical spine was ordered based on the latest clinical findings. The CT results indicated a comminuted fracture of the anterior arch of the C1 vertebra with an acute subarachnoid bleed in the left parietooccipital region. After consultation with the neurosurgical team, the patient was placed in a cervical collar (ASPEN) and managed conservatively.

### CONCLUSION:

Continuous assessment and high suspicious level of patient with multiple injuries and negative initial findings is required to exclude the possibility of cervical spine fracture. Emphasize should be given to patients with distracting pain especially of upper limb involvement.

### REFERENCES:

1. Gerrelts BD, Petersen EU, Mabry J, Petersen SR. Delayed diagnosis of cervical spine injuries. *J Trauma*. 1991;31:1622–1626.