



An Underdiagnosed Case of Abdomino-Thoracic Trauma Following Road Traffic Accident

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ABSTRACT

A 21 year male presented with history of run-over by car 2 hours back, without any external injury, with left shoulder pain. Clinical examination, Contrast Enhanced CT (CECT) thorax, X-rays of shoulder, arms, spine and pelvis was done and patient was referred to orthopedic and cardiothoracic surgeons. No abdominal imaging was done. 12 hours later patient developed abdominal guarding and on performing CECT Abdomen patient was having grade-III splenic injury with grade-III liver injury with moderate hemoperitoneum

KEYWORDS

Road Traffic Accident (RTA), Focused Assessment Sonography in Trauma (FAST), Blunt Trauma Abdomen

Introduction:

Blunt Trauma Abdomen is having wide spectrum of clinical presentation from most benign course to most fatal consequences. To prevent a non-life threatening condition getting converted into a fatal one and to properly manage life-threatening visceral injuries, a thorough initial evaluation should be done.

Case-report:

A 21-year male presented to triage of our Trauma Centre with history of run-over by a moving car, probably an SUV, 2 hours back. On initial assessment, patient was conscious, well oriented, tachycardic (pulse rate 132/min, radial), oxygen saturation by pulseoxymetry-96% at room air and blood pressure 106/74 mm of Hg in right arm at supine position. There was no external injury except a minor abrasion over right knee. CECT thorax with X-Rays of bilateral shoulder joint, arm, cervical, thoracic and lumbar spine, pelvis and bilateral thigh with knee joint was advised. Patient was diagnosed of having left scapular fracture with left lung contusion with left hemo-pneumothorax. Finally a left sided intercostal-tube was placed and stabilization of left shoulder joint was done by the residents of respective departments (Cardiothoracic unit and Orthopedics unit, respectively). Patient's hematological laboratory investigations were as following-

Hemoglobin-9.1 g%, WBC count-21300/mm³, Differential-N 92/L 3/M 4.5, Platelets - 173000/mm³, ALT- 266 U/L, AST-270 U/L, Total Bilirubin- 1.9 mg/dl, Direct Bilirubin- 0.2 mg/dl, Urea-39 mg/dl, Creatinine - 0.9 mg/dl, Na⁺ - 140 mmol/L, K⁺ 4.9 mmol/L, Cl⁻ 106 mmol/L, Calcium 9.4 mg/dl



Figure 1: CECT thorax of the patient showing Left sided hemo-pneumothorax

12 hours later patient complained of severe abdominal pain. At this time his vitals were still stable (though tachycardia persisted) but abdominal guarding became obvious. In suspicion of abdominal-visceral injury, CECT abdomen was advised, which revealed grade-III splenic injury with grade-III liver injury with moderate hemoperitoneum. Since patient's vitals were stable, he was put on strict bed-rest and managed conservatively. Patient's intercostal tube was removed on post-injury day 5 and patient was discharged on day 7 after injury with advice of absolute bed rest for at least next 4 weeks at home.

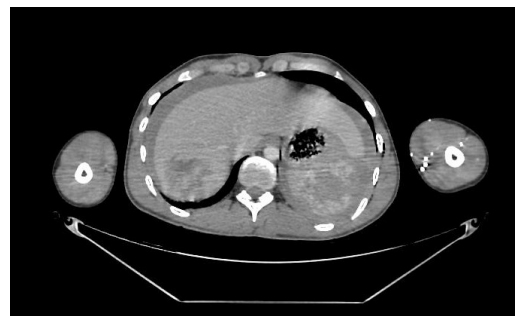


Figure 2: CECT Abdomen of the same patient showing Grade III Liver injury with perihepatic collection with grade III splenic injury.

Discussion:

Blunt trauma abdomen, especially in cases of road traffic accidents, may present in very notorious ways. The most devastating danger is life-threatening exsanguination of abdominal visceral injury. Such type of injuries may present both early as well as delayed in post-trauma period. To prevent the lethal complications of such injuries, it is mandatory to perform abdominal imaging in all trauma patients. CT scan is an ideal modality of imaging in such conditions but its availability, cost and expertise limits its immediate use in trauma setting. In such situation FAST (Focused Assessment Sonography in Trauma) proves a life-saving cost-effective tool that does not need the expertise of a radiologist/sonologist. In above mentioned case, performing the abdominal imaging at the very initial stage would have enabled early detection of abdominal injury. Although not fatal in this case, liver and splenic injuries may prove fatal if remain undetected.

Conclusion:

Abdominal scan must be performed as initial assessment process to detect abdominal visceral injury earlier, especially in case of road traffic accidents (RTA). Although not fatal in this case, it may had deadly consequences if missed. Focused Assessment Sonography in Trauma (FAST) is an inexpensive, rapid and easily available ultrasound technique that can prevent such underassessment and trauma related deaths.

References:

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