



## A Miraculous Case of Thoraco-Abdominal Bullet Injury and its Management

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### ABSTRACT

A 45-years old male presented with history of bullet injury over right arm 6 hours back. He was having complaint of breathing difficulty along with upper abdominal and forearm pain and a foreign body sensation over left sided upper abdomen. The patient was managed meticulously with watchfulness for any immediate operative intervention, if needed. Patient improved with conservative management and unintended laparotomy avoided.

### KEYWORDS

Laparotomy, Contrast Enhanced CT, Intercostal tube

### Introduction

Thoraco-abdominal firearm injury is a tricky case scenario. There is risk of injury to certain vital thoracic structures such as lung, great vessels, heart etc. that may result in an immediate threat to life. Abdominal visceral injury puts the patient at the risk of gastro-intestinal and other solid/hollow viscus injury that increases morbidity and mortality drastically. In such situations, decision to perform an operative intervention is very tricky and should be individualized according to case to case.

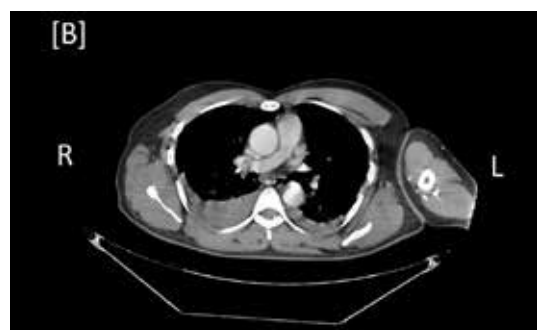
### Case Report

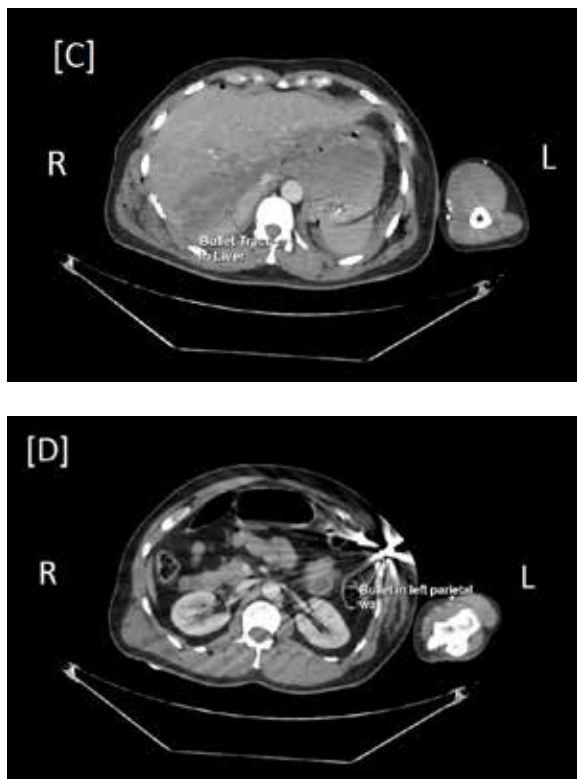
A 45-years old male presented with history of bullet injury over right arm 6 hours back. He was having complaint of breathing difficulty along with upper abdominal and forearm pain and a foreign body sensation over left sided upper abdomen. On arrival, patient was conscious, well-oriented to time, place and person. His pulse rate was 132/minute, blood pressure 100/56 mm Hg (left arm supine position), SpO<sub>2</sub> 88% on room air and 94 % at supplemental oxygenation @ 4lit/min. On examination there was an entry wound of size 3x2.5 cm present over lateral aspect of lower third of right arm, and exit wound of size 2x2 cm at middle 3<sup>rd</sup> of right forearm. There was charring present over anterolateral aspect of right arm and forearm. There was another entry wound present in 5<sup>th</sup> intercostal space 2cm anterior to mid axillary line. There was no exit wound at thoraco-abdominal region. Although there was a bruise present at left subcostal region in mid axillary line.



**Figure 1: Bullet entry wound in right arm with surrounding charring.**

After initial resuscitation, Contrast Enhanced CT (CECT) of thorax and abdomen along with X-ray of Right arm advised. The investigations revealed that there was no bony injury in right forearm. In CECT thorax, there was bilateral contusion pneumonitis with bilateral pleural collection (right >> left) with right 6<sup>th</sup> to 10<sup>th</sup> and left 11<sup>th</sup> rib fractures. CECT abdomen revealed Grade-IV right lobe liver injury with perihepatic collection with minimal pneumobilia with pneumoperitoneum along with a metallic shadow seen in antero-lateral wall of left abdomen at hypochondrium region with subcutaneous emphysema.





**Figure 2:** [A] X-ray right arm AP view showing bullet tract; [B] CECT Thorax showing bilateral pleural effusion (Right >> Left); [C] CECT abdomen showing Grade-IV liver injury and tract of bullet inside liver; [D] CECT Abdomen showing bullet lodged in left parietal wall.

Right sided intercostal tube was placed and patient was kept over strict observation for development of signs of peritonitis. Patient was given broad spectrum IV antibiotics. Oral soft diet started on day 2 following admission and patient improved. Intercostal tube was removed after stoppage of column-movement and expansion of lung on day 8 and patient discharged on day 10.

### Discussion

In this case, the bullet tract took a miraculous course and did not injure any vital structure. Still the pneumoperitoneum was a confusing scenario that might be either due to injured lung and diaphragm or due to injury to any gastro-intestinal structure. A decision to avoid laparotomy was based on strict observation for development of any signs of peritonitis and thus patient was spared of an unnecessary operative intervention.

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