PATIENT OF HOMICIDAL TRAUMA CAME WITH SHARP OBJECT IN SITU

Abstract –The incidence of penetrating trauma, which includes injuries caused by objects that breach the skin and enter the body, is estimated to be 10-15% of all traumas. Penetrating injuries with an in situ object are relatively rare , but when they occur, they can be life-threatening and can significantly increase the risk of complications and mortality. Mortality

Key words – sharp object in situ , foreign body in situ , homicidal injury

Introduction -

Broken ribs are a common chest injury, often causing pain and difficulty breathing

Types of Chest Injuries:

- Rib Fractures:
- Pneumothorax: Air in pleural space.
- Hemothorax: Blood in the pleural space (the space between the lungs and chest wall).
- Pulmonary Contusion: Bruising of the lungs.
- Cardiac Tamponade: fluid or blood in the pericardial sac.
- Diaphragmatic Rupture: A tear in the diaphragm, which separates the chest cavity from the abdomen.

According to ATLS (Advanced Trauma Life Support) guidelines, the following chest trauma types are considered immediately life-threatening:

Airway obstruction:

This can be caused by blood, secretions, or foreign objects, leading to difficulty breathing.

Tension pneumothorax:

Air builds up in the chest cavity, compressing the lung and potentially leading to circulatory collapse.

Open pneumothorax:

A wound in the chest allows air to enter the chest cavity, leading to a collapsed lung.

Flail chest:

Multiple rib fractures cause a section of the chest wall to become detached and move paradoxically with breathing, impairing ventilation.

Massive hemothorax:

A large amount of blood accumulates in the chest cavity, compressing the lung and potentially leading to circulatory collapse.

Cardiac tamponade:
Blood or fluid accumulates around the heart, preventing it from pumping effectively.

Case study – young 18yr male from Mumbai , Presented in our emergency, after 2-3 hrs of assault by one unknown person with sharp small knife over back. Entry wound was over back upper midline .

On presentation, patient was conscious and oriented respiratory rate was 20 per minute, pulse 94 per minute and blood pressure 110/80 mm Hg.

There was no active bleeding externally.

Subcutaneous emphysema absent

On auscultation air entry equal on both side.

fluids, analgesics, antibiotics given .

Chest X-ray was within normal limit(fig 01 , fig 02).

Hrct chest - knife blade in subcutaneous plane , no hemothorax or pneumothorax. Rest within normal limit .

The patient was taken up for Surgery ,local wound exploration done and sharp object removed ,hemostasis achieved ,post – procedure patient was hemodynamically stable .

Post procedure image of knife (fig 03).

Discussion-

Most chest injuries can be treated with simple observation. Only 18.32% of patients required tube thoracostomy and 2.6% needed thoracotomy.[1]

The leading cause of the trauma was violence (41%) followed by traffic accidents (33%).[2]

Open pneumothorax can be recognized by drifting the air through the wound, synchronously with breathing and may be visibly bubbling. During inspiration, when a negative intra-thoracic pressure is generated, air is entrained into the chest cavity not through the trachea but through the hole in the chest wall. This is because the chest wall defect is much shorter than trachea, and hence provides less resistance to flow. Once the size of the hole is more than 0.75 times the size of the trachea, air preferentially enters through the thoracic cavity .[3]

Conclusion – chest trauma is in in increasing number . So early assessments , accurate diagnosis and no attempt to remove the penetrating foreign body and planning of key role in successful management is important.

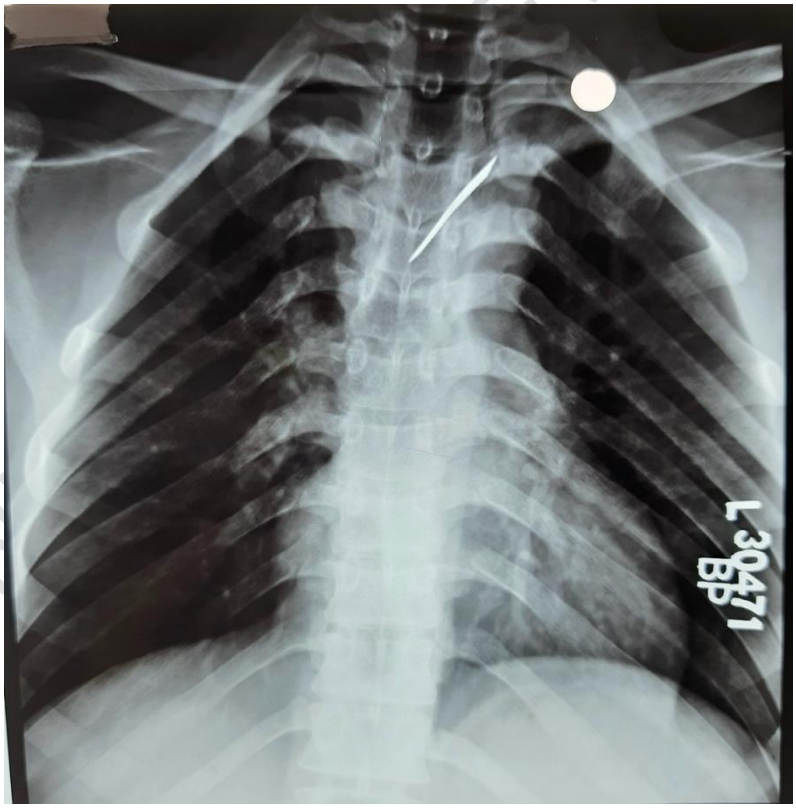

Fig 01 - Anteroposterior view of Chest

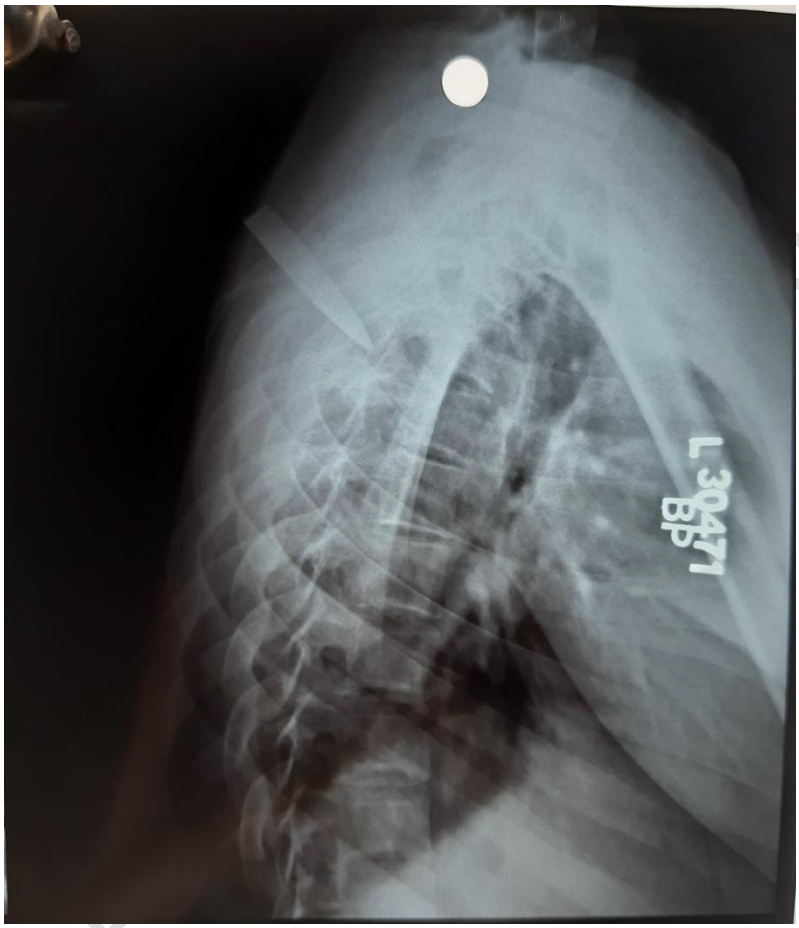

Fig 02 – lateral view of chest X-ray

Fig 03 – post procedure image of knife

References-

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