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Analysis of cases of chest trauma in known population: A clinical study

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Abstract
Background: Chest trauma is a common cause of morbidity and mortality. The present study was conducted to assess the cases of chest trauma.
Materials & Methods: The present study was conducted in the department of general surgery. It comprised of 146 cases. The type of trauma, mode of trauma and physical signs and symptoms were recorded.
Results: out of 146 patients, males were 72 and females were 74. 102 cases were of blunt trauma and 44 were of penetrating. The difference was significant ($P< 0.05$). The mode of trauma was road side accident in 124, fall in 15, gun shot in 2 and physical violence in 5. Emphysema was seen in 45, clicks in 50 and crepitation in 34.
Conclusion: Authors found that maximum cases were of blunt trauma as compared to penetrating trauma. Mode of trauma was road side accident, fall, gun shot and physical violence.

Keywords: Chest, emphysema, trauma

Introduction
Chest trauma is a common cause of morbidity and mortality, especially in the young patients. Thoracic injuries are the third injuries in trauma patients, after to injuries to head and extremities. Thoracic trauma has an overall mortality rate of 15–25%, which is the highest with cardiac or tracheobronchial-esophageal injuries patients. Really the presence of thoracic injuries in the setting of polytrauma can significantly increase the mortality rate. Injuries such as lung contusion, flail chest, pneumothorax and haemthorax can complicate globally a case management [1].
Thoracic trauma is a significant cause of mortality. Many patients with these injuries die after reaching the hospital. However, many of these deaths could be prevented with prompt diagnosis and treatment [2]. Less than 10% of blunt chest injuries and only 15 to 30 % of penetrating chest injuries require operative intervention. In fact, most patients who sustain thoracic trauma can be treated by simple emergency room (ER) procedures, which are within the capabilities of most of the emergency healthcare workers [3]. Chest injuries contribute to around 10 % of total trauma-related deaths and 15 % of loss of disability adjusted life years (DALYS) and they are the second leading cause of death in pediatric trauma. Majority of the patients can be managed conservatively and only 10-15% cases need exploratory thoracotomy [4]. The present study was conducted to assess the cases of chest trauma.

Materials & Methods
The present study was conducted in the department of general surgery. It comprised of 146 cases reported to department. The study was approved from institutional ethical committee and written consent was obtained from all patients.
Data such as name, age, gender etc. was recorded. The type of trauma, mode of trauma and physical signs and symptoms were recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Results

Table 1: Distribution of patients

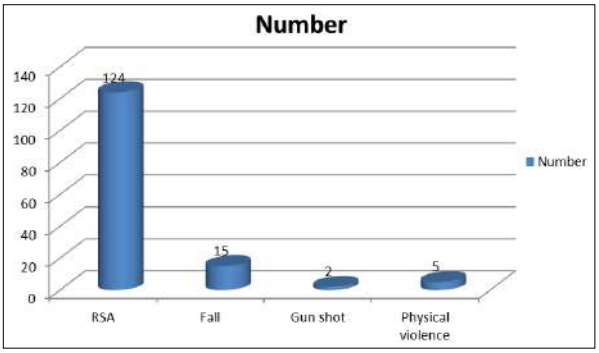
Total- 146		
Gender	**Males**	**Females**
Number	72	74

Table I shows that out of 146 patients, males were 72 and females were 74.

Table 2: Type of trauma

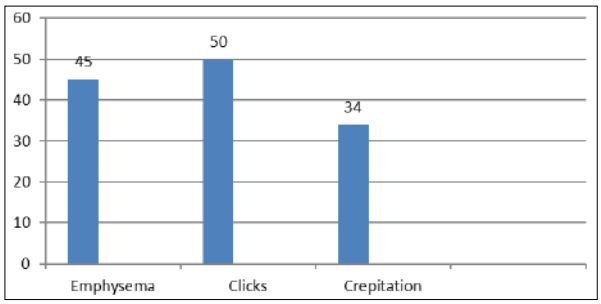
Type	Number	P value
Blunt	102	0.01
Penetrating	44	

Table II shows that 102 cases were of blunt trauma and 44 were of penetrating. The difference was significant ($P< 0.05$).



Graph 1: Mode of trauma

Graph I shows that mode of trauma was road side accident in 124, fall in 15, gun shot in 2 and physical violence in 5.



Graph 2: Physical examination

Graph II shows that emphysema was seen in 45, clicks in 50 and crepitation in 34.

Discussion

Chest trauma is an important public health problem accounting for a substantial proportion of all trauma admissions and deaths. It directly account for 20–25%of deaths due to trauma. Physical examination is adequate for the diagnosis of rib fractures in almost all conscious patients and useful in the diagnosis of other conditions like hemopneumothorax, pneumothorax, tension pneumothorax, surgical emphysema, flail chest, cardiac tamponade etc. [5] The present study was conducted to assess the cases of chest trauma.

In this study, out of 146 patients, males were 72 and females were 74. 102 cases were of blunt trauma and 44 were of penetrating. Sawyer *et al*. [6] found that The commonly associated injuries with blunt chest trauma were orthopedic injury being the most common 34 patients (23.6%) followed by internal organ injury (19.4%), traumatic brain injury (18.1%), skull bone fracture (8.3%) and vertebral injury (1.4%). Skull bone fracture (8.3%), traumatic brain injury (18.1%) and vertebral injury (1.4%) were associated only with blunt trauma patients. About penetrating trauma internal organ injury (21.4%) is the most common associated injuries followed by diaphragmatic injury (10.7%) then orthopedic injury (7.1%). There was a high significant difference between blunt and penetrating trauma concerning diaphragmatic injury which was associated only with penetration trauma patients.

We found that mode of trauma was road side accident in 124, fall in 15, gun shot in 2 and physical violence in 5. We found that emphysema was seen in 45, clicks in 50 and crepitation in 34.

Pate *et al*. [7] found that only 16 (8.8%) patients required surgery and rest 91.2% managed on conservative line only. Rib fracture was the commonest injury (60%) followed by hemopneumothorax (51.7%), surgical emphysema (37.9), lung contusion (10.4%), flail chest (6.2%) etc. Associated injuries were seen in 117 (48.8%), with head injury the commonest one. Overall mortality rate was 12%, which was higher in blunt chest trauma as compared to penetrating injuries.

Huber *et al*. [8] studied poor outcome predictors after significant chest trauma in multiply injured patients found rib fractures in 11475 (51%) including (35% rib fractures 7794 patient, 16% Flail chest 3681 patient) in accordance with the present study 37(51.4%) patients with blunt chest trauma included (36.1% Multiple rib fracture, 12.5 % Flail chest, 2.8% Single rib fracture). Naggar *et al*. [9] studied 149 patients with chest trauma they were 121 males and 28 females (81.2% vs. 18.8%; male: female = 4:1). This male predominance may be explained by being more mobile, physically active and are more involved in outdoor activities like drivers, industrial workers, construction sites, other hazardous occupations, and laborers etc.

Conclusion

Authors found that maximum cases were of blunt trauma as compared to penetrating trauma. Mode of trauma was road side accident, fall, gun shot and physical violence.

References

1. Mirka H, Ferda J, Baxa J. MDCT of blunt chest trauma: indications, technique and interpretation. Insights Imaging. 2012; 3(5):433-49.
2. Lema M, Chalya P, Mabula J, Mahalu W. Pattern and outcome of chest injuries at Bugando Medical Centre in Northwestern Tanzania. J Cardiothorac Surg. 2011; 6:7.
3. Elbaih AH, Elshapowry IM, Kalil NG, El-Aouty H. Evaluation of thoracic trauma severity score in predicting the outcome of isolated blunt chest trauma patients. IJSM. 2016; 2(3):100-6.
4. Blyth A. Thoracic trauma. BMJ. 2014; 7(348):1137.
5. Kaewlai R, Avery L, Asrani V, Novelline RA. Multidetector CT of blunt thoracic trauma. Radiographies. 2008; 28(6):1555-70.
6. Sawyer M, Sawyer E, Jablons D. Blunt chest trauma. J Trauma. 2007; 63(6):68-80.
7. Pate JW. Chest wall injuries. Surg Clinc North Am. 1989; 69:59-70.
8. Huber Ulshrestha P, MunshiIand R. Profile of chest trauma in a level I trauma center. J Trauma. 2004; 57(3):576-81.
9. El-Naggar AM. Incidence and patterns of chest injuries in patients with blunt chest trauma. J Trauma. 2005; 6(2):60-70.