



Reserach Article

ASSESSMENT OF CLINICAL PRESENTATION AND MANAGEMENT OF BLUNT CHEST INJURIES IN TERTIARY HOSPITAL

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ABSTRACT

Acupuncture is used as an adjunct therapy throughout the World to treat various chronic ill disorders like systemic hypertension, diabetes. In our study, we investigated the effects of Acu-TENS therapy at Zhongwan (CV12) acupoint in Streptozotocin (45mg/kg/body weight/IP) induced diabetic rats and was compared with anti-diabetic drug (Pioglitazone 7.5mg/kg/body weight). Acu-TENS with low frequency (15HZ), high intensity, pulse width of 5 sec was used to stimulate the Zhongwan acupoint (CV12) for 5 minutes daily without anaesthesia for 60 days. Significant ($p \leq 0.01$) decrease in blood glucose level, the total cholesterol, triglycerides, low density lipid and with significant increase in high density lipid. Histopathological examination of pancreatic islets shows increased cellular density in Zhongwan acupoint treated rats and was compared with anti-diabetic drug. The anti-diabetic and lipolytic effect of Zhongwan(CV12) acupoint may be due to increase in insulin secretion through the mediation of β -endorphin.

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INTRODUCTION

Trauma is an important and serious problem of public health concern. It leads to disability and mortality especially among most active and productive age group of 0-40 year. It is a leading cause of morbidity and death in developing countries with thoracic trauma contributing significantly to these figures especially where infrastructure and personnel are ill equipped to cater for these critically ill patients. It is estimated that death from unintentional trauma is on the increase in developing countries though not as significantly as that from infectious diseases like diarrhoea and malaria, while it is on the decrease in industrialized countries (1). Previous reports on incidence of blunt versus penetrating injury from Nigeria have been conflicting depending on the urbanisation of the region as well as prevailing circumstances of peace or regional armed violence which occur sporadically.

Blunt chest injuries can lead to fracture of ribs, fracture of sternum and even fracture of thoracic vertebrae. It can also lead to various types of injuries like contusions, lacerations and sometimes causing hemothorax, pneumothorax. Hence the presence of intra-thoracic involvement may be overlooked Rib fracture acts as the factor that presents the severity of trauma patients. It is common for trauma patients to experience other organ injuries; only 6% to 12% of trauma patients complain only of rib fracture.

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METHODS

The present study was conducted among 120 cases of chest trauma admitted under Department of Surgery or emergency department, during the period of January 2018 to April 2018. All patients were immediately attended and history, primary survey and resuscitation were done simultaneously. Subsequent management either operative or non-operative was done according to clinic-radiological findings.

Inclusion criteria: Patients of age group 18 to 80 years and all patients of polytrauma/chest trauma were included in the present study

Exclusion criteria: Patients who are < 18 years and > 80 years of age and patients with associated head injury with altered level of consciousness, with associated infections were excluded from the present study.

The data was recorded in pre-designed, pre-tested and semi-structured questionnaire. Then it was entered in Microsoft Excel Worksheet and analyzed using proportions.

RESULTS

The present study was conducted among 120 cases of chest trauma admitted under department of general surgery in a tertiary healthcare teaching institute.

In the present study, we observed that there were 92 (76.66%) males and 28 (23.33%) females with a male predominance in each age group (Figure 1). The majority of the Chest trauma cases belonged to 26-35 years (46 cases), followed by 18-25 years. (Table 1) Road traffic accident was the commonest (67)

cause of injury followed by injury due to fall from height (36) and 18 cases presented with history of assault.

Table 1 Distribution of study subjects according to their age group

Age group	Number of patients	Percentage
18-25	18	15%
26-35	43	35.83%
36-45	29	24.16%
46-55	15	12.5%
56-65	11	9.16%
More than 66	4	3.33%
Total	120	100%

Majority of the cases presented with Chest wall wounds (35%), followed by Rib fractures (23.33%), Clavicular fractures (15.83%), Scapular fractures (10%), Thoracic spine injury (13.33%) and Haemothorax among 32.5% cases.

Table 2 Distribution of study subjects according to type of injury

Type of injury	Number of patients	Percentage
Chest wall wounds	42	35
Rib fractures	28	23.33
Clavicular fractures	19	15.83
Scapular fractures	12	10
Thoracic spine injury	16	13.33
Haemothorax	39	32.5
Pneumothorax	3	2.5
Lung laceration	1	0.83
Esophageal injury	1	0.83

Table 3 Distribution of study subjects according to management

Management	Number of patients	Percentage
Conservative	109	90.83%
ICD	7	5.83%
Thoracostomy	2	1.66%
Thoracotomy	1	0.83%
Pleural tapping	1	0.83%

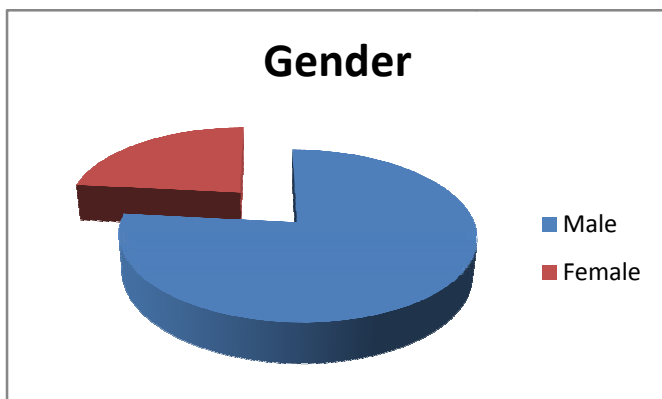


Figure 1 Distribution of study subjects according to their gender

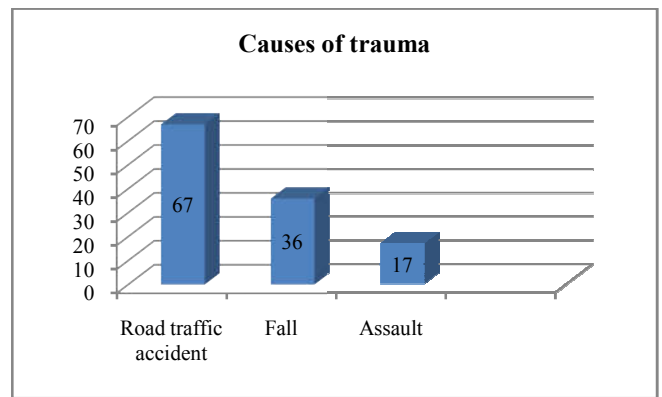


Figure 2 Distribution of study subjects according to their age group

In the management of cases majority of the cases were managed conservatively, Conservative (90.83%). 5.83% cases managed using ICD, Thoracostomy among 1.66% cases, thoracotomy among 0.83% and Pleural tapping was done among single case.

DISCUSSION

In the present study, The majority of the Chest trauma cases belonged to 26-35 years (46 cases), followed by 18-25 years. Similar findings were also reported by Lu MS *et al*. In the present study, it was observed that majority of cases were male (64.2 %). This dominance of the males has also been reported by various workers like Saaq M *et al*, Mohan Atri *et al* observed that majority (78.7%) were males.

Road traffic accident was the commonest (67) cause of injury followed by injury due to fall from height (36) and 18 cases presented with history of assault. Saaq M *et al* has observed that Road Traffic Accidents (RTAs) were the commonest cause of trauma (72%). Lu MS *et al* also reported that vehicle accident was seen in 207 patients, falls in 66, pedestrian injury in 10, and assaults in 14.5 Mohan Atri *et al* also observed that motor vehicle accident is the most common mode of injury.

Majority of the cases presented with Chest wall wounds (35%), followed by Rib fractures (23.33%), Clavicular fractures (15.83%), Scapular fractures (10%), Thoracic spine injury (13.33%) and Haemothorax among 32.5% cases. Saaq M *et al* found that fracture ribs were most common chest injuries (74% patients) after chest wall tenderness and supports present study. Mohan Atri *et al* also observed that 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.

Adegboye VO *et al* concluded that majority of blunt chest trauma (72.9%) can be managed by simple procedures such as care of analgesia and physiotherapy with minimal complications. Simon B *et al* stated that most of blunt injury chest with fracture ribs even with pulmonary contusion managed medically needs only pain management. Most patient of chest trauma treated with conservative management in this study (93.6%) that is almost equal to the above studies and supported by them.

CONCLUSIONS

Chest trauma injuries are common among males in the adult age group, with the most common cause being vehicular accidents. This situation can only be controlled by increasing

awareness for preventing morbidity and mortality among young and active age group.

Conflict of Interest: None

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