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## Study On Autopsy Pattern Of Thoraco-Abdominal Injuries Among Deceased Brought At Tertiary Health Care Centre

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### ABSTRACT

The bony thoracic cage contains vital organs of circulation and respiration. Trauma to these organs challenges the integrity and viability of individual. The present study was prospective cross-sectional study was carried out in the department of Forensic Medicine of tertiary health care teaching hospital to study the autopsy profile of thoraco-abdominal injuries among deceased. Maximum number of cases were from age group between 21 to 40 years (50.00%) followed by 41 to 60 years (30.00%). The mean age was 29.48 years. Ratio of male to female was 5.9. Maximum number of cases were residing in rural region. (76.67%) . Accident (68.89%) was most common manner followed by homicide (28.89%).

**Keywords:** thoraco-abdominal injuries, trauma

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## INTRODUCTION

The bony thoracic cage contains vital organs of circulation and respiration [1]. Trauma to these organs challenges the integrity and viability of individual. Similarly, abdomen which is the third commonest region of body as injury to it is important as it contains vital organs like liver, spleen, kidney, pancreas and hollow viscous like stomach, intestines and urinary bladder. Injuries to these organs are significant & fatal. Road traffic accidents have always been a leading cause of blunt trauma throughout the world [2]. At the same time, blunt weapons are some of the most easily available weapons during an unanticipated fight or assault. In India, one of the most common causes of blunt abdominal trauma is road traffic accident and blunt abdominal trauma is one of the leading causes of mortality among trauma victims [3]. In this study pattern of thoracic & abdominal injuries was studied.<sup>3</sup> This kind of knowledge will play a significant role in future planning to reduce morbidity & mortality and to develop preventive strategies against occurrence of thoraco-abdominal injuries [4-6].

## MATERIAL AND METHODS

The present study was prospective cross-sectional study was carried out in the department of Forensic Medicine of tertiary health care teaching hospital to study the autopsy profile of thoraco-abdominal injuries among deceased.

### Study Area

The present study was conducted in department of Forensic Medicine of medical college and tertiary care hospital.

### Study Population

Deceased brought for post mortem at Tertiary Care Centre.

### Inclusion Criteria

All the cases of Thoraco-abdominal injuries brought for post mortem examination at Tertiary Care Centre.

### Exclusion Criteria

- Natural deaths
- All other accidental deaths/assault not involving thoraco- abdominal injuries

All deceased brought for post mortem examination in one & half year duration by using complete enumeration method select all cases which occur in data collected duration that treated as sample.

Total 90 cases were included in this study. The present study was conducted on deceased brought for post mortem examination at tertiary care centre.

## RESULTS

Out of 90 cases 45 (50.00%) were from age group between 21 to 40 years followed by 41 to 60 years 27 (30.00%), 61 to 80 years 10 (11.11%) and ≤20 years 08 (08.89%).

Out of 90 cases 77 (85.56%) were male and 13 (14.44%) were female.

Out of 90 cases 69 (76.67%) were from rural area and 21 (23.33%) from urban area.

Out of 90 cases 62 (68.89%) were due to accidental cause followed by Homicidal 27 (28.89%), 01 (1.11%) due to suicidal.

Out of 90 cases 16 (17.78%) had consumed alcohol and 74 (82.22%) did not consume alcohol.

**Table 1: Distribution of cases according to Survival period Survival period**

<b>No. 1: Distribution of cases according to Survival period Survival period</b>	<b>Frequency (N)</b>	<b>Percentage (%)</b>
Brought Death	37	41.11
1 to 6 hrs.	10	11.11
6 to 12 hrs.	06	06.67
1 to 7 days	30	33.33
>1 week	07	07.78
<b>Total</b>	<b>90</b>	<b>100.00</b>

The above table shows that out of 90 cases 36 (40.00%) were having only abdominal organ injuries followed by 29 (32.22%) with both thoracic and abdominal and 25 (27.78%) with only thoracic injuries.

**Table 2: Injury distribution**

<b>Injury</b>	<b>Frequency (N)</b>	<b>Percentage (%)</b>
Lungs	46	51.11
Liver	29	32.22
Intestine	26	28.89
Spleen	16	17.78
Kidney	13	14.44
Heart	12	13.33
Stomach	09	10.00
Pancreas	06	06.67
Fracture of ribs	03	03.33
Bladder	02	02.22
Esophagus	01	01.11
Walls	01	01.11
Sternum	01	01.11

The above table shows that out of 90 cases 46 (51.11%) were having lungs injuries followed by 29 (32.22%) with liver, 26 (28.89%) with intestinal, 16 (17.78%) with spleen, 13 (14.44%) with kidney, 12 (13.33%) with Heart, 09 (10.00%) with stomach, 06 (06.67%) with Pancreas, 03 (3.33%) with fracture of ribs, 02 (2.22%) with bladder, 01 (1.11%) with Esophagus, Sternum, walls injuries.

### DISCUSSION

The present study was prospective descriptive study conducted at department of Forensic Medicine of tertiary care hospital.

Injuries are studied during three phases in patient management: (a) initial assessment, (b) diagnostic work-up (imaging, laboratory studies etc.), (c) surgical exploration.6 These undiagnosed fatal injuries become a source of professional embarrassment and possible litigation. According to a study by CRRRI (Central Road Research Institute) New Delhi and studies done by WHO road traffic accidents account for 2.5% of total deaths. India has one of the largest railway networks in the world and accidents are not unexpected. The trauma related to railway accidents is usually severe, intensely fatal and mutilating [7].

Industrial accidents also contribute to thoraco-abdominal injuries due to rapid industrialization in urban as well as rural areas throughout the country. Sexual assaults continue to present most rapidly growing violent crimes in our society and in these cases injuries are present over the chest and abdomen as a sign of struggle like love bites, scratch marks have their own special medico-legal significance. Traumatic injuries in child abuse cases are frequent cause of morbidity and mortality in children worldwide [8].

In our study maximum number of cases were in between age group 21 to 40 years (50.00%) followed by 41 to 60 years (30.00%), 61 to 80 years (11.11%). The mean age of deceased was 39.48 years with standard deviation of 16.18. Range of age was 04 to 80 years. In our study males (85.56%) were more than females (14.44%). Our results match with the result in the study conducted by Husaini N et al [8] where maximum number of victims of fatal thoracoabdominal injuries were males (87.09%) as compared to females (12.90%) and maximum number of male victims in fatal categories belonged to the age group of 21-30 years (31.18%) and 31-40 years (18.27%). The Maximum number of females victims in fatal categories belonged to the age group of 31-40 years (4.30%) and 21-30 years (2.15%).

In this study cases from rural area (76.67%) were more than from urban area. (23.33%) The association between residence of cases and type of incident was statistically significant. This may be due to poor quality of roads in rural area than in urban area hence probably accidents were more in rural area. In our study it was observed that homicide was more in urban area this may be due to more crime rate and referral of severe cases to this hospital from rural areas. This study most common type of incidence was accidental (68.89%) followed by Homicidal (30.00%) & suicidal (1.11%). Our results match with the result in the study conducted by Husaini N et al [8] wherein the commonest manner of thoracoabdominal injuries amongst the victims of fatal categories were accidental 98.92% followed by suicide (1.07%).

### CONCLUSION

Maximum number of cases were from age group between 21 to 40 years (50.00%) followed by 41 to 60 years (30.00%). The mean age was 29.48 years. Ratio of male to female was 5.9. Maximum number of cases were residing in rural region. (76.67%). Accident (68.89%) was most common manner followed by homicide (28.89%).

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