

The Comprehensive Analysis of Traumatic Rib Fractures and their Complications: A Post Mortem Study

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Abstract

Introduction: Rib fractures are the most common injury sustained following blunt chest trauma, accounting for more than half of thoracic injuries from non-penetrating trauma. Approximately 10% of all patients admitted after blunt chest trauma have one or more rib fractures. In United States they account for 10% of traumatic injuries and 14% of all chest wall injuries. The incidence of flail chest is 10% to 15% of severe chest traumas. **Material and Methods:** In this retrospective study, fatal cases of thoracic trauma autopsied during the period 1st January 2009 to 31st December 2010 were analyzed at the Department of Forensic Medicine & Toxicology, Adichunchanagiri Institute of Medical Sciences, Mandya District, and Karnataka, India. **Results:** In the present study, 31.3% of victims belong to the 3rd decade of life. Women were less involved than men with ratio of 1: 1.5. The mortality rate was 20.18%. The victims in most of the cases sustained non displaced rib fractures followed by displaced fractures. 5th rib fracture were seen in eight cases followed by 4th and 6th ribs fracture were seen in seven cases. The nature of death in most of the cases was accidental. The victims in most of the cases sustained road traffic accidental injuries followed by fall from height. Haemo-thorax was found in 27 cases and pneumo-thorax was seen in 20 cases. **Discussion:** In the study done by Mehmet. 548 (38.7%) of the cases had rib fractures. There were 331 males and 217 females, with an overall mean age of 43 years (range: 5–78 years), the etiology of the trauma included road traffic accidents in 330 cases, falls in 122, assault in 54, and industrial accidents in 42 cases. Pulmonary complications such as pneumo-thorax (37.2%), hemo-thorax (26.8%), hemo-pneumothorax (15.3%), pulmonary contusion (17.2%), flail chest (5.8%) and isolated subcutaneous emphysema (2.2%) were noted. **Conclusions:** A rib fracture secondary to blunt thoracic trauma is an important indicator of the severity of the trauma. In the present study we explored the morbidity and mortality rates in patients with rib fractures. Finally, we come to a conclusion that blunt trauma patients sustaining more number of fractured ribs are always associated with higher mortality and morbidity rates owing to greater severity of internal organ injuries.

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