

European Respiratory Society Annual Congress 2013

Abstract Number: 2462

Publication Number: P2661

Abstract Group: 8.1. Thoracic Surgery

Keyword 1: Lung injury **Keyword 2:** Treatments **Keyword 3:** No keyword

Title: Impact of traumatic rib fractures on pulmonary morbidity and mortality: A multicenter prospective study

Dr. Necati 1705 Citak necomomus@mynet.com MD ¹, Dr. Atilla 1706 Pekcolaklar atillapekcolaklar@yahoo.com MD ², Dr. Abdulaziz 1707 Kök azizkok@yahoo.com MD ³, Dr. Ibrahim 1708 Denizkiran idenizkiran@gmail.com MD ⁴, Dr. F. Dogu 1709 Geyik dogugeyik@hotmail.com MD ⁵, Dr. I. Ilker 1710 Öz ilkeroz@yahoo.com MD ⁶ and Dr. Serdar 1711 Evman sevman@yahoo.com MD ⁷. ¹ Thoracic Surgery, Kars State Hospital, Kars, Turkey ; ² Thoracic Surgery, Soma State Hospital, Manisa, Turkey ; ³ Thoracic Surgery, Ardahan State Hospital, Ardahan, Turkey ; ⁴ Thoracic Surgery, Sinop State Hospital, Sinop, Turkey ; ⁵ Anesthesiology and Reanimation, Kars State Hospital, Kars, Turkey ; ⁶ Radiology, Bülent Ecevit University, Zonguldak, Turkey and ⁷ Thoracic Surgery, Umraniye Research and Education Hospital, Istanbul, Turkey .

Body: Objective: Rib fractures (RF) and associated injuries are a frequent traumatic injury associated with a relatively high morbidity and mortality. Methods: Between 2011 and 2013, 287 patients with blunt thoracic trauma and RF are prospectively analyzed. Number of RF, flail chest, pulmonary morbidity, concomitant injuries, and mortality are recorded. Results: The mechanism of trauma was road traffic accidents in 119 patients, falls in 114, animal-related-trauma in 26, industrial accidents in 16, and assault in 12. Pulmonary complications such as pulmonary contusion (29.3%), hemo-pneumothorax (16%), subcutaneous emphysema (15%), pneumothorax (12.5%), hemothorax (11.5%), and flail chest (5.6%) were observed. Number of RF was significantly related with the presence of pulmonary complications ($p < 0.05$). Thoracotomy was required in 5 patients (1.7%). Number of RF and hemo-pneumothorax was the significant risk factors for necessity of a thoracotomy ($p = 0.002$ and $p = 0.03$). Mortality was calculated as 2.4% ($n = 7$). On univariate analysis, in patients with more than five RF ($p = 0.0007$), flail chest ($p = 0.05$), thoracotomy ($p = 0.0001$), hemo-pneumothorax ($p = 0.01$) or concomitant injuries ($p = 0.001$) were found to be significant risk factors for mortality. By multivariate analysis, only three factors significantly influenced mortality: number of RF ($p = 0.03$), concomitant injuries ($p = 0.02$) or need a thoracotomy ($p = 0.01$). Conclusion: The risk of pulmonary complications was associated with number of RF increase. Mortality is encountered more frequently in patients with five or more RF, high NISS/ISS, or indication for a thoracotomy. In such cases, the suitable approach should be considered.