

Comparison of Diagnostic Value of Clinical Examination and Routine Radiography in Diagnosis of Chest Injury in Stable Blunt Trauma Patients

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Abstract

Introduction: The Stable blunt chest trauma is a common reason for visiting emergency rooms. Patient history and careful clinical examination can provide information similar to CXR at a faster rate and with no complication. This study aimed to compare the results of radiography and clinical examination.

Methodology: This prospective study conducted on 186 stable blunt trauma patients aged 16 and over. The acute injuries of the chest wall evaluated and compared in this study, included rib fracture, sternum fracture, flail chest, pneumothorax, hemothorax, and emphysema. The data were analysed using descriptive statistical tests.

Findings: The mean age of patients participating in this study was 39.63 ± 14.95 years, and 125 patients (67.2%) were male. The most common pathologic finding in the patients' CXR was rib fracture, observed in 45 patients (24.2%). A total of 54 patients had a positive finding and injury diagnosis in CXR, while the total number of positive cases in the clinical examination was 87. The analysis of the results showed that the overall sensitivity, specificity, positive predictive value, and negative predictive value of the clinical examination in the diagnosis of chest injuries in patients with blunt trauma were 94.1%, 72.7%, 58.6%, and 96.9%, respectively.

Conclusion: Although the results of this study suggested the appropriateness and high level of clinical examination sensitivity in the diagnosis of some chest injuries such as rib fracture and sternum fracture, its sensitivity is unacceptable in the diagnosis of some important injuries, such as pneumothorax and hemothorax.