

Lung Ultrasound in Critically-ill patients: A Comparison with Bedside Chest Radiography

PURPOSE:

To compare the diagnostic performance of lung ultrasound (LUS) and bedside chest radiography (CXR) for the detection of various pathologic abnormalities in critically ill patients.

METHODS:

Forty Critically-ill patients primarily or secondarily presented with respiratory manifestations, scheduled for CT chest were studied with a standard lung ultrasound protocol & Bedside CXR within 24 hours. Four pathologic entities were evaluated: consolidation, acute interstitial syndromes, pneumothorax, and pleural effusion.

RESULTS:

Eighty hemithoracies were evaluated by the three imaging techniques. The sensitivity, specificity, and diagnostic accuracy of CXR were 62, 89, and 73% for consolidation 50, 73.6, and 60% for interstitial syndrome, 25, 100, and 78% for pneumothorax, and 46, 90, and 78% for pleural effusion, respectively. The corresponding values for lung ultrasound were 100, 81.4, and 93% for consolidation, 100, 58, and 78% for interstitial syndrome, 100, 86, and 90% for pneumothorax, and 100, 97, and 98% for pleural effusion, respectively.

CONCLUSION:

LUS has shown a considerably better diagnostic performance than Bedside CXR in diagnosing of common lung pathologic conditions among critically ill patients and may be used as an alternative to CT chest.

Key words: Bedside CXR versus Lung Ultrasound Diagnosis of Various