

## البحث الثالث

### عنوان البحث

# **Assessment of severe dyspnea in critically ill patients by transthoracic sonography: Fayoum experience of the Bedside Lung Ultrasonography in Emergency protocol**

**Background:** Management of critically ill patients requires imaging tools, which are important for optimizing diagnostic and therapeutic actions. Both bedside chest radiography and thoracic computed tomography have limitations that constrain their utility. The aim of our work is to explore the value of transthoracic ultrasound (TUS) using the Bedside Lung Ultrasonography in Emergency (BLUE) protocol in critical ill patients with severe dyspnea. Patients and methods This study included 109 ICU patients with acute dyspnea at Fayoum University Hospital. The judgments of chest ultrasound using the BLUE protocol were compared with the final diagnoses; rare diagnoses and uncertain diagnoses were excluded. Results By application of the BLUE protocol, TUS was absolutely sensitive, specific, and accurate for the diagnosis of pneumothorax. For pneumonia, the sensitivity, specificity, and diagnostic accuracy were 93.8, 95.7, and 95.8%, respectively, whereas these parameters for pulmonary edema were 100, 96.8, and 99%, respectively. TUS was absolutely sensitive in the diagnosis of chronic obstructive pulmonary disease, asthma, or diffuse parenchymal lung disease, whereas the specificity and diagnostic accuracy were 88.9 and 88.9%, respectively, for chronic obstructive pulmonary disease and asthma and 96.8 and 100%, respectively, for diffuse parenchymal lung disease.