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Brief clinical history:

A 75-year-old male with a history of high blood pressure and diabetes, was admitted to the emergency department for cough, fever and malaise of 7 days of evolution.

Misleading elements:

We present the case of a patient who goes to the emergency department for cough, fever and malaise, and thanks to POCUS, an early diagnosis of severe presentation pneumonia was made. We used a Sonosite M-Turbo, with convex probe C60e/5-2MHz.

Helpful details:

On physical examination the patient presented poor general condition, hypotension (90/50 mmHg), tachycardia, tachypnea and an oxygen saturation of 88% (FiO2 0.21); pulmonary auscultation showed hypoventilation of the left lung field. A bedside pulmonary ultrasound was performed by the Emergency Physician showed a loss of the normal ultrasound pattern at left anterior level, with basal condensation of the left upper lobe and dynamic air bronchogram, compatible with pneumonia. The patient was treated in the emergency department with early combination empiric antibiotic treatment, hemodynamic support and noninvasive mechanical ventilation. Later, laboratory results showed leukocytosis of 19710/ml with 90% neutrophils, CRP 230 mg/dL, arterial blood pH of 7.10 with lactate level of 11 mmol/L. Subsequently, the patient's symptoms improved and he was finally admitted to the Pneumology Department in 24 hours.



Bedside lung ultrasound in critically ill patients in the emergency department M¹ Algaba-Montes; A¹ Oviedo-García; FJ¹ Luque-Sanchez, J¹ Rodríguez-Gómez.



arrows) and a large pulmonary vessel (red arrow).

Differential and actual diagnosis:

Among the differential diagnoses that we must consider include bacterial pneumonia, viral pneumonia, aspiration pneumonia, pneumocystis pneumonia, pulmonary embolism, pulmonary neoplasia, bronchitis, lung abscess, tuberculosis, sarcoidosis, etc... The actual diagnosis of the patient is bacterial pneumonía.

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Figure 1: Pulmonary ultrasound showing the alveolar basal condensation of the left upper lobe with air bronchogram (yellow

Educational and/or clinical relevance:

Pneumonia is a serious disease with high morbidity and mortality. Its diagnosis can be difficult, and even challenging, in emergency situations or in critical patients. Many of the commonly used radiological signs are not specific. Many of the commonly used radiological signs are not specific. Traditionally, in daily clinical practice, its diagnosis was based on the clinical history, physical examination and chest x-ray (occasionally CT). Early diagnosis of pneumonia is essential to begin immediate empirical treatment in a critical patient, otherwise it may endanger life or be associated with high morbidity, particularly in critical patients. In the last two decades, ultrasound has shown that it could play an important role in medicine and pulmonary evaluation. Lung access by ultrasound has been traditionally considered offlimits for ultrasound techniques due to the acoustic barrier of high-impedance air wall. However, this position has changed drastically with a large amount of literature that supports the use of pulmonary ultrasound in multiple clinical situations. This tool can be used easily and immediately in a seriously ill patient, as in the case we present, guiding treatment early and even monitoring the clinical evolution of the patient.

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