

## Can Lung US Help Critical Care Clinicians in the Early Diagnosis of Novel Coronavirus (COVID-19) Pneumonia?

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Dear Editor:

As reported by Feng et al, chest CT has a pivotal role for the diagnosis and assessment of lung involvement in COVID-19 pneumonia (1). Nowadays CT protocols are used to estimate the pulmonary damage (1,2,3). Unfortunately, CT scanning is not available in all emergency departments. Lung US is a surface imaging technique greatly developed in the last decades and strongly recommended for acute respiratory failure (4). It is commonly used in the emergency department at the bedside for early diagnosis of pneumonia. It is a highly sensitive and specific technique considered as an alternative to chest radiography or CT scanning (5,6). We evaluated the role of lung US in patients who presented to our emergency department with COVID-19 pneumonia. Twelve patients (9 male and 3 female, mean age

63±13 years) with flu-like symptoms in the last 4–10 days and COVID-19 infection underwent bedside lung US and CT. Two patients had emphysema but without need of oxygen therapy at home. None of the patients had severe respiratory distress (PaO<sub>2</sub>/FiO<sub>2</sub> 257–376 mmHg).

In all the patients, we found a diffuse B-pattern with spared areas. Only three patients had posterior subpleural consolidations. Chest CT scan was performed in all 12 patients and showed a strong correlation with US: bilateral lung involvement with ground-glass opacity; five of 12 patients had a crazy-paving pattern. Organizing pneumonia was confirmed in four patients as well as detected with lung US.

We are aware that our data are preliminary and further studies are necessary to confirm the role of lung US in the diagnosis and management of COVID-19 pneumonia, but we strongly recommend the use of bedside US for the early diagnosis of COVID-19 pneumonia in all the patients who presented to the emergency department with flu-like symptoms in novel COVID-19 era.

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