



Comment on: should lung ultrasound be always performed in older patients with possible COVID-19 disease

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Dear Editor,

We would like to praise Costantino Caroselli and Antonio Cherubini for their initiative by suggesting lung ultrasound (LUS) as a clinical tool to be used in geriatric patients with suspected interstitial pneumonia secondary to SARS-CoV2 infection [1].

Indeed, LUS and other protocols of point-of-care ultrasound (PoCUS) provide a safe, non-invasive, and patient-near approach as a clinical tool for investigating various conditions such as (but not limited to) pulmonary manifestations of SARS-CoV2 infection [2, 3]. As correctly described by Caroselli and Cherubini, geriatric patients often show atypical and vague symptoms in reaction to critical conditions, complicating the diagnostic process and contributing to the highest mortality of any patient group in the emergency department (ED) setting [1]. PoCUS may improve the diagnostic work-up by screening for a variety of critical conditions (e.g. pneumonia, pulmonary edema, deep-venous-thrombosis, pulmonary embolism, cholecystitis etc.) [3]. Furthermore, PoCUS can be performed bedside,

ideally by the same doctor that made first contact with the patient. For a frail geriatric patient, this reduces the amount of shifting personnel that are unfamiliar with the patient and thereby limits potential stressors to a frail cognition which furthermore reduces the risk of delirium or prolonging a patient's delirium [4].

It seems as if the match between geriatric patients and PoCUS is a modern-day medical Shakespearean sonnet: Iambic approach (dichotomous approach: yes/no) for each line (scan zone), comprehensible in rhyme (easy to learn), perfect in rhythm (a joy to master) and perfected in Italy (we thank our Italian colleagues for sharing their massive work during the pandemic regarding LUS and SARS-CoV2).

Alas, as with Shakespeare's sonnets, a thorough introduction under the supervision of an experienced teacher is essential when implementing PoCUS in a clinical setting. Equally important is continuing supervision and assistance in interpreting pathology. Indeed, the approaches by Soldati et al. and Mongodi et al. are helpful in assessing loss of aeration but rely on the physician's fundamental knowledge of LUS. As with all aspects of medical education, evidence-based learning and validated courses are a prerequisite to embracing LUS as a tool for examining interstitial pneumonia secondary to SARS-CoV2 infection in geriatric patients. In recent years, evidence-based learning and validated programmes have been established around the world (e.g., European Respiratory Society (ERS): thoracic ultrasound training programme). With the fundamentals in order, the interpretation of findings can begin. Indeed, as geriatric patients may suffer from a variety of chronic or acute conditions which may mimic LUS-findings of COVID (e.g. multiple B-lines as observed in pulmonary edema and fibrosis or pleural consolidations representing peripheral pulmonary emboli or bronchogenic carcinoma) the novice PoCUS-physician faces several clinically important potential pitfalls when interpreting findings [5].

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The protocol by Soldati et al., as referred to by Caroselli and Cherubini, emphasizes the importance of continuous LUS examinations when quantifying loss of aeration in patients with interstitial pneumonia secondary to SARS-CoV2 infection [1]. It is therefore important to keep in mind that sporadic LUS examinations will provide little valuable information, but continuous LUS examinations on the same patients will better both diagnostics and prognostication while providing an excellent tool for monitoring disease progression.

We welcome the patient-centered approach of LUS and PoCUS as a valuable ally for geriatric patients and doctors in years to come.

Declarations

Conflict of interest The authors have no conflict of interest to declare.

Ethical approval This article does not contain studies with human nor animal participation, performed by the authors.

Informed consent This article does not require informed consent.

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