**Letter to the Editor**

**Bedside lung ultrasonography as a triaging tool for suspected COVID-19 patients in the emergency department**

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Dear Editor,

With the evolution of emergency medicine, the increasing need to quickly diagnose sick patients has popularized the use of point-of-care ultrasonography (POCUS). A growing body of evidence now supports that lung ultrasound (LUS) can perform far better than other imaging modalities in emergency settings.\(^{(1)}\)

When the ongoing SARS-CoV-2 pandemic threatens humanity, the medical community is grappling to find the best diagnostic tool for early & accurate identification of COVID-19 cases while keeping the exposure of healthcare providers’ nosocomial outbreaks to a minimum. In the current situation, sending a suspected patient to the radiology department for any imaging has become even more difficult because of the need for cumbersome decontamination of the scanners. These limitations especially hold true for low and middle-income countries, where emergency departments are not as robust and well-equipped, health systems are inefficient or primitive, and emergency medicine as a specialty is either in its infancy or barely thriving. In such circumstances, POCUS has garnered a lot of respect as it is inherently non-invasive, radiation-free, cost-effective, readily available, and above all, easily portable. Moreover, properties like complementation of clinical examination with the privilege to scan patients at their bedside and the ease to learn & use have made POCUS a potent tool in the arsenal of emergency physicians.\(^{(2)}\)

Chinese physicians, the first ones to encounter this emerging disease, got the opportunity to perform LUS on infected patients. Therefore, the earliest literature from Chinese researchers describes the following sonographic findings that are most consistent with COVID-19 \(^{(3)}\) as seen in Figure 1:

- Pleural line: thick appearing, irregular and discontinuous.
- B-lines: focal, multifocal, or fused that are patchy or non-homogenous.

![Figure 1](image.png)

*Fig 1*: Key features of LUS like pleural thickening (green box), subpleural consolidation (blue box), and multifocal B-lines (red box), while the CXR shows bilateral infiltrates. *reprinted with permission\(^{(4)}\)"
• Subpleural consolidations: multi-focal, small, primarily peripheral, non-trans-lobar, and trans-lobar patterns with occasional mobile air bronchograms.

• Other findings include poor blood flow in consolidations as seen by color doppler, the rarity of pleural effusions, and A-lines during the recovery phase.

• The propensity of the findings mentioned above be bilateral and most commonly affects the posterior & lower regions of the lungs.

The POCUS movement is gaining momentum in Pakistan, especially in tertiary care medical centers of big cities. One of the significant challenges in remote and resource-constrained hospitals is access to imaging like HRCT or even a portable CXR. Cost-effective and less-transmissive modalities like ultrasound, mainly when done to triage and risk-stratify COVID-19 cases, could potentially steer healthcare delivery towards being more efficient and safer.

REFERENCES


