

# Correspondence: Association of Light's Criteria with Pleural Fluid Procalcitonin Levels and Ultrasound Thorax with its Impact on the Management of Pleural Effusion: A Cross-sectional Study

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Dear Editor,

The study titled "Association of Light's Criteria with Pleural Fluid Procalcitonin Levels and Ultrasound (USG) Thorax with Its Impact on the Management of Pleural Effusion: A Cross-sectional Study" was read with great interest [1]. The research is insightful, and the efforts of the investigators are commendable. However, several points require further clarification.

1. The study mentions the limitations of Light's criteria in identifying transudative effusions but does not address the role of modified Light's criteria. Inclusion of parameters such as serum-pleural fluid protein and albumin gradients could have provided additional diagnostic insight [2].
2. The study describes septations as "thin" and "thick," but no specific references or objective criteria are provided to distinguish between these classifications, which limits reproducibility.
3. The finding that 15% of anechoic effusions (nine cases) were exudative highlights that Ultrasonography (USG) alone is insufficient for differentiating transudative from exudative pleural effusions, as also acknowledged in the study. Correlation with biochemical parameters, as outlined in Light's criteria, is essential.
4. Decisions regarding drainage (aspiration or tube thoracostomy) cannot rely solely on USG findings. Pleural fluid pH and glucose levels, as recommended by the American Thoracic Society (ATS) and the British Thoracic Society (BTS) guidelines, are critical for guiding management [3].
5. Regardless of the presence of thin or thick septations, effusions with low glucose levels or positive microbial staining require drainage. This important correlation was not adequately addressed.
6. The indication for tube insertion in cases of anechoic effusions lacks adequate justification. Clinical or biochemical parameters supporting this decision should have been provided.
7. Complex non septated effusions were categorised as transudative; however, these may represent false transudates and warrant further evaluation [4].
8. Although the study mentions thoracotomy or Video-Assisted Thoracoscopic Surgery (VATS), it does not discuss the role of Intrapleural Fibrinolytic Therapy (IPFT) in managing effusions with thin or thick septations. IPFT is a potentially cost-effective and minimally invasive therapeutic option [5].
9. The history of prior thoracocentesis before performing USG was not addressed. Previous intervention could influence

ultrasonographic findings, such as increased internal echoes and septations.

10. Minimal transudative effusions may not require thoracocentesis. A comprehensive clinico-radio-biochemical correlation was not performed to address this aspect.
11. Elevated Procalcitonin (PCT) levels can occur in the presence of bacterial infections elsewhere in the body, thereby reducing its specificity in pleural effusions. This limitation was not adequately discussed in the study [6].
12. The wide variability in PCT values observed in the present study, as well as in studies cited in [Table/Fig-13], is notable [1]. Elevated PCT levels were primarily seen in empyema, reinforcing the limited clinical utility of PCT in the broader evaluation of pleural effusions.

Finally, it is important to acknowledge that thoracic USG is operator-dependent and should primarily serve as an adjunctive tool in the evaluation of pleural effusions. While it provides valuable information regarding internal echoes, septations, pleural thickening, and peripheral lung involvement, the underlying aetiology of pleural effusion should always be determined through biochemical and pathological assessment. Established guidelines, including Light's criteria and ATS and BTS recommendations, should guide this evaluation.

The editorial team attempted to contact the authors for clarification; however, communication could not be established.

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