LETTER TO THE EDITOR

Neutrophil to lymphocyte ratio (NLR): a road to an inexpensive biomarker for acute exacerbation of COPD

Muhammad Hassan, Laiba Noor

Madam, Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide, with a disproportionately high burden in low- and middle-income countries (LMICs).[1]

Recurrent exacerbations of COPD are primarily driven by increased airway inflammation, often triggered by respiratory infections or environmental pollutants. These exacerbations significantly contribute to hospitalizations and mortality among COPD patients.

Recent literature has increasingly recognized the neutrophil-to-lymphocyte ratio (NLR) as a reliable marker for predicting COPD exacerbations. A systematic review has reaffirmed the value of NLR as an independent predictor of acute exacerbations.[2] NLR is an attractive biomarker because it is cost-effective, widely accessible, and easily obtained from routine complete blood count (CBC) tests. A study conducted in China further underscores the utility of NLR as a low-cost biomarker, particularly in primary and community healthcare settings.[3]

However, the clinical significance of NLR in Pakistan remains understudied. Given that cut-off values for NLR can vary based on racial and ethnic differences, further studies are essential to establish population-specific reference values. This is supported by a study in the United States, which demonstrated racial variability in NLR cut-off thresholds.[4] Similarly, a study in Uganda explored NLR as a predictor of disease severity, highlighting the importance of establishing region-specific cut-off values for COPD management.[5]

Considering the high incidence of COPD exacerbations in Pakistan, nationwide studies are needed to investigate the predictive value of NLR for assessing disease severity, in-hospital mortality, and length of hospital stay. Establishing validated prognostic markers will ultimately help reduce the overall healthcare burden and improve patient outcomes.

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Department of Surgery, Wah Medical College, Wah Cant, Pakistan.
Correspondence: xxxxx. **Email:** muhammedhassan2000@gmail.com
ORCID ID: 0009-0006-7640-2534

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