

8. Neutrophil lymphocyte ratio better addition to CRP than CD64 index as marker for infection in COPD.

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Abstract

OBJECTIVE:

This study investigated the importance of neutrophil-lymphocyte ratio (NLR) and other new inflammatory markers including CD64 expression in patients with chronic obstructive pulmonary disease (COPD) for identifying the severity of inflammation and recognition of acute exacerbation and infection.

METHODS:

72 patients with a diagnosis of COPD exacerbation who were admitted to Internal Medicine B department, 13 stable COPD, and control group of 15 healthy persons were enrolled in the study. Complete blood count (CBC), measurement of C reactive protein (CRP), MPV, RDW and CD64 expression were determined within 2 hours of hospital admission.

RESULTS:

NLR and other inflammatory markers, such as RDW, CRP and CD64 were found to be significantly elevated in exacerbated COPD compared to stable COPD and control participants. There was a significant correlation of NLR with CRP ($r = 0.309$, $P < 0.001$), For an NLR cutoff of 7.3, sensitivity for detecting exacerbation of COPD was 0.768 and specificity was 1-0.269 (AUC 0.793, $P = 0.001$) RDW was significant as NLR. CD64 is statistically significant ($p = 0.002$) the lack of significance was between AECOPD and stable COPD, but indexes were higher in the group of COPD patients with complications.

CONCLUSIONS:

Elevated NLR can be used as a marker similar to CRP, and RDW, in the determination of increased inflammation in acutely exacerbated COPD. NLR could be beneficial for the early

detection of potential acute exacerbations in patients with COPD who have normal levels of traditional markers; CD64 was higher but did not reach statistical significance. MPV was not helpful