ABSTRACT

NEUTROPHIL-LYMPHOCYTE RATIO AS A MARKER OF DISEASE SEVERITY AND EXACERBATION IN COPD

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ABSTRACT

INTRODUCTION

Since the burden of COPD is increasing day by day and is a leading cause of mortality, it is important to have a prognostic marker for COPD. The well-known prognostic marker for COPD is the BODE score which includes
Aims and Objectives

➢ To assess whether Neutrophil-to-Lymphocyte ratio can be used to assess the severity of disease by comparing it with BODE score in COPD

➢ To assess whether the Neutrophil Lymphocyte ratio is higher in COPD exacerbation compared to patients with stable COPD

Materials & Methods

This analytical cross-sectional study is to be conducted among 80 patients which includes 30 patients who attend the emergency department of Gov.Rajaji Hospital, Madurai in a state of COPD Acute exacerbation and 50 Stable COPD patients who attend the OPD for followup.

Methodology

A detailed history including duration of illness, smoking history, pack-years and any past medical history was taken. Degree of dyspnoea was assessed using Modified Medical Research Council (MMRC) dyspnoea scale. Body mass index (BMI) calculated. Pulmonary function tests were done.
Peripheral blood samples were collected from all patients within 24 hours of admission which includes total count, differential count of neutrophils and lymphocytes. Neutrophil-to-lymphocyte ratio was calculated by dividing absolute neutrophil count by absolute lymphocyte count. BODE score was calculated in the stable COPD group.

RESULTS

COPD is more prevalent among smokers and male sex. Low BMI is a risk factor for severe disease. NLR correlated with the severity of airflow obstruction. NLR has a positive correlation with mMRC scale. NLR correlated inversely with 6-minute walk distance. Thus, NLR correlated inversely with BMI, FEV1%, 6-minute walk distance and has a positive correlation with mMRC scale. NLR correlated with the disease severity as it has positive correlation with BODE score. NLR was significantly higher in COPD exacerbation compared to patients with stable COPD.

CONCLUSION

NLR correlates well with the disease severity in stable COPD as compared to BODE score. So, it should be used as a routine prognostic marker of mortality in all patients with COPD. NLR can be used as a marker of COPD exacerbations.