

The association of blood eosinophil levels with the 30-day readmission after COPD hospitalization.

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BACKGROUND:

Previous studies regarding the association between blood eosinophil levels and clinical outcomes in exacerbation of COPD are conflicting. The aim of this study was to investigate the association of blood eosinophil levels with the 30-day readmission following COPD hospitalization.

METHODS:

Hospitalized COPD patients due to exacerbation between 2016-2017 were retrospectively evaluated. Readmissions were analyzed using 3 cut-off points of blood eosinophil levels; less than 150 cells of eosinophil/ μL vs $\geq 150/\mu\text{L}$, less than 200 vs $200 /\mu\text{L}$, less than 300 vs $\geq 300/\mu\text{L}$. 30-day COPD-related readmission and all-cause readmission were evaluated among groups.

RESULTS:

A total of 159 patients were included in this study; 61 (38.4%) patient had blood eosinophil $<150/\mu\text{L}$ whereas 98 (61.6%) patients had $\geq 150/\mu\text{L}$, 83 (52.2%) patient had $<200/\mu\text{L}$, whereas 76 (47.8%) patients had $\geq 200/\mu\text{L}$, and 112 (70.4%) patient had $<300/\mu\text{L}$, whereas 47 (29.6%) patients had $\geq 300/\mu\text{L}$. The mean eosinophil blood count was 265.9 cells/ μL . A blood eosinophil levels ≥ 300 cells/ μL was associated with an increased risk of 30-day COPD-related readmission (OR, 2.42 [95% CI, 1.35-6.52]; $P = 0.012$), and an increased risk of 30-day all-cause readmission (1.85 [95% CI, 1.06-4.12]; $P = 0.034$). The length of stay were similar between groups.

CONCLUSIONS:

This study appears to support that an elevated blood eosinophil levels is associated with a higher hospital readmission rates in COPD patients.