Results

The blood eosinophil count in COPD patients included in these trials in the UK is very similar to that worldwide (Figure).

Conclusions

This suggests that blood eosinophil count could be used in the UK to help predict response to inhaled corticosteroids in COPD.

REFERENCES


Abstract P143 Figure 1

Blood eosinophilia as predictor for patient outcomes in COPD exacerbations: a systematic review and meta-analysis

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Background and significance

COPD exacerbations are associated with significant morbidity, mortality, and substantial healthcare cost. The eosinophilic phenotype of COPD has been demonstrated to respond better to corticosteroids thus providing better clinical outcomes. This review aims to elucidate further the correlation between blood eosinophilia and outcomes in hospitalised patients with COPD exacerbations.

Methods

We systematically searched published and unpublished literature for potential studies that fulfilled our eligibility criteria. Inclusion criteria include any cohort (prospective or retrospective), case-control or randomised trials that looked into the association of blood eosinophilia and outcomes in hospitalised COPD exacerbation patients. The primary study outcome was length of hospitalisation; other outcomes include readmission and mortality rate within 1 year, in-patient mortality, and need for mechanical ventilation. An extensive eligibility, methodological and risk of bias assessments were performed independently by two authors adhering to the MOOSE and Cochrane standards.

Results

Six studies, with a total of 7293 patients, were included in the review. Five are retrospective cohorts and one is a retrospective analysis of a subgroup of a randomised trial. Patients with blood eosinophilia had significantly shorter hospital stay compared to non-eosinophilic patients (mean difference 0.68 days [95% CI: 1.09, 0.27]). Eosinophilic patients had significantly less frequent readmissions (odds ratio/OR 0.69 [95% CI: 0.55, 0.87]) but there was no statistically significant difference in the 1-year mortality rate (OR 0.88 [95% CI: 0.73, 1.06]). Analysis showed a trend toward lower in-patient mortality among eosinophilic patients, although this difference is not statistically significant (OR 0.53 [95% CI: 0.27, 1.05]). Furthermore, COPD patients with eosinophilia had significantly less need for mechanical ventilation during an exacerbation (OR 0.56 [95% CI: 0.35, 0.89]). Only the primary outcome was significantly heterogenous.

Conclusions

COPD patients with blood eosinophilia had significantly shorter hospital stay, less frequent readmissions, and are less likely to require mechanical ventilation compared to the non-eosinophilic phenotype.