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Potential impact of Dupilumab in patients admitted to hospital with a COPD exacerbation

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Background

COPD exacerbations continue to drive significant hospitalisation, mortality, and healthcare burden. Dupilumab has recently been approved for eosinophilic COPD and may reduce exacerbations, but real-world eligibility and potential service impact remain unclear.

Methods

Retrospective analysis of COPD admissions between Nov 2022 and Dec 2023. Patients were followed up for 12 months post-discharge.

Results

There were 603 patients admitted with a COPD exacerbation. 24% (146/608) of patients had a concurrent diagnosis of asthma. In total, 468 patients with COPD exacerbations were analysed.

Median age was 73 years (IQR 64–79), 55% were female (262/468), in-hospital mortality was 8% (39/468), and one-year mortality was 27% (128/468). Readmission within 12 months occurred in 25% of patients (121/468), resulting in 253 readmissions.

Pre-admission, 66% (310/468) were receiving triple inhaled therapy. Of which 48% (150/310) had elevated blood eosinophils ($\geq 0.3 \times 10^9/L$) in the preceding 12 months and would be eligible for dupilumab. This accounts for 1/3rd (32%, 150/468) of all patients admitted with a COPD exacerbation. In this group, there were 113 readmissions for 54 patients in the following year.

Applying a projected 39% reduction in exacerbations, dupilumab could have prevented 44 readmissions (17% of total readmissions, 44/253). Thirteen potentially eligible patients required acute NIV, representing 50% of total NIV burden.

Conclusion

Early initiation of appropriate patients with dupilumab at admission could significantly reduce readmission and NIV burden.
