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THE LANCET Respiratory Medicine

Comparative effectiveness of LABA-ICS versus LAMA as initial treatment in COPD targeted by blood eosinophils: a population-based cohort study

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A large population-based cohort study to compare the effectiveness and safety profiles of long-acting β_2 agonists dispensed in fixed combination with inhaled corticosteroids (LABA-ICS) to long-acting muscarinic antagonists (LAMA) as first-line treatments for chronic obstructive pulmonary disease (COPD). This paper is the first such head-to-head comparison to employ real-world observational data. While both treatments have proven effective, there are safety issues associated with ICS – namely, an increased risk of pneumonia. Moreover, it has been suggested that ICS-containing drugs may only be effective in patients with elevated blood eosinophil concentrations. Blood eosinophil is an important biomarker in COPD, with higher concentrations indicating increased incidence of COPD exacerbations and mortality.

By refining the understanding of how particular types of COPD will respond to different medications, this study involving over 24,000 COPD patients provides evidence for the concept of precision medicine with regard to treating patients with this condition. A simple blood test can measure blood eosinophils and, based on the level, physicians can make a better-informed decision on which treatment to prescribe. In this way, the potential risks of an ICS can be avoided, in most patients except in those with high eosinophil levels for whom the drug is effective.

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