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Putting Evidence Into Practice

Stable COPD and the Role of Inhaled Corticosteroids

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Clinical Question

Does inhaled corticosteroid (ICS) monotherapy improve exacerbation outcomes in patients with stable chronic obstructive pulmonary disease (COPD)?

Evidence-Based Answer

ICS monotherapy decreases the likelihood of exacerbations in patients with stable COPD compared with placebo.¹ (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

Practice Pointers

COPD is a pulmonary inflammatory condition characterized by airway obstruction.² COPD affects more than 15 million people in the United States, causing more than 150,000 deaths per year.³ Primary care physicians need to recognize COPD and provide treatment to reduce exacerbations because of the related morbidity and socioeconomic burden. ICS monotherapy can benefit patients with COPD; however, its role is uncertain because recommendations have favored using ICS therapy in combination with long-acting bronchodilators.

The authors of this Cochrane review assessed studies published up to October 2022 that compared ICS monotherapy (commonly budesonide) vs. placebo in patients with stable COPD.¹ Primary outcomes included COPD exacerbations, quality of life using the validated St. George's Respiratory Questionnaire, all-cause mortality, lung function (e.g., forced expiratory volume in one second [FEV₁]), use of rescue bronchodilators, exercise capacity, pneumonia, and thrush. Outcomes were measured by rates of hospitalization and oral corticosteroid and antibiotic use. This review

included 36 randomized, double-blind, placebo-controlled trials with 23,139 participants. Most studies were conducted in the United States, Canada, Europe, and Africa in multicenter/hospital outpatient clinics. Outcomes were consistent among studies. The duration of follow-up was three to six months (17 studies) or more than six months to three years (19 studies). The standardization for using long-acting muscarinic antagonists/long-acting beta₂ agonists or other treatments could not be reported.

The mean rate of COPD exacerbations decreased by 0.05 per patient per year (95% CI, 0.02 to 0.07) in the ICS monotherapy group compared with a baseline rate of 0.60 exacerbations per patient per year among those in the placebo groups. [corrected] After the data were pooled, ICS monotherapy for COPD likely resulted in an overall reduction in exacerbations with a decreased rate of decline of FEV₁ and a small quality-of-life improvement. There was no significant reduction in all-cause mortality.

ICS monotherapy use consistently increased the risk of developing pneumonia (number needed to harm [NNH] = 46; 95% CI, 21 to 861) and thrush (NNH = 32; 95% CI, 20 to 57) compared with placebo. These results were consistent among the studies in which they were reported. There was low to moderate confidence in the evidence discussed in this review.

This review is consistent with older recommendations⁴; however, the current guidelines do not suggest that long-term ICS monotherapy be used for stable COPD.² ICS in combination with long-acting muscarinic antagonists/long-acting beta₂ agonists (i.e., triple therapy) is recommended over dual therapy when ICS therapy is indicated, such as when long-term monotherapy with long-acting beta₂ agonists is insufficient, or there is concomitant asthma.² Primary care physicians should be prepared to discuss the risks and benefits of ICS monotherapy with their patients as part of the management of stable COPD.

The practice recommendations in this activity are available at <https://www.cochrane.org/CD002991>.

References

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