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Lack of Bacterial Colonization Measure in Randomized Controlled Trial on Inhaled Corticosteroids Effect in Patients with Chronic Obstructive Pulmonary Disease

To the Editor:

We read with great interest the article by Han and colleagues on the effect of inhaled corticosteroids (ICS) withdrawal and baseline inhaled treatment in the IMPACT (Once-Daily Single-Inhale Triple versus Dual Therapy in Patients with COPD) study (1) as well as the three accompanying editorials on the topic (2–4) recently published in the *Journal*. Remarkably, most of the included patients in this study had severe chronic obstructive pulmonary disease (COPD) or had previous exacerbations (5). We would like to contribute to this debate by highlighting the following potentially relevant, but completely ignored, confounding factor: the role of bacterial colonization in these patients. This is based on the following observations: 1) between 25% and 50% of patients with COPD (especially those with severe disease or multiple exacerbations) suffer chronic bronchial colonization, most frequently by *Haemophilus influenzae*, *Streptococcus pneumoniae*, *Moraxella catarrhalis*, and *Pseudomonas aeruginosa* (6); 2) treatment with ICS in patients with COPD increases bacterial load (7, 8); and 3) chronic bacterial colonization in patients with COPD is associated with an increase in the number and severity of exacerbations, accelerated decline of lung function, higher pneumonia incidence, worse quality of life, and higher mortality (6, 9), and these are the most common outcomes used in COPD trials. However, chronic airway infection is never measured or considered in most trials investigating the role of ICS in COPD. We propose, therefore, that future studies collect precise information on bacterial colonization before randomization and during follow-up. Sputum culture (quantitative if possible) is cheap and feasible (10) and can be obtained in a large proportion of patients. This information would likely help to determine which patients can benefit most from ICS or in whom their withdrawal would be safer. ■

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