Bronchiectasis
Defining Specific Treatment Needs

To the Editor:

Inhaled corticosteroids (ICSs) and long-acting β-agonists (LABAs) have developed a central role in the management of airways disease in pulmonary medicine. This efficacy derives largely from the ability to suppress lymphocyte- and eosinophil-driven inflammation and the consequent adverse effects on smooth muscle function. The paradigm for assessment of efficacy of these agents in asthma and COPD focuses on airway function and the subjective and symptomatic benefits that ensue from improved airway function.

Martínez-García et al. 1 report in a recent issue of CHEST (February 2012) a potentially beneficial effect of combined LABA-ICSs on dyspnea score and health-related quality of life in non-cystic fibrosis bronchiectasis. Among the population of patients with bronchiectasis, 67% met inclusion criteria (chiefly airflow obstruction without evidence of COPD or asthma) and 37 patients (28%) completed the study. The combination-treated group demonstrated a clinically significant improvement in transition dyspnea index and quality of life (as measured by the St. George Respiratory Questionnaire), whereas no benefit was seen in the high-dose steroid-treated group. Importantly, no clinically significant benefits attributable to ICS were identified, whereas severe adverse events, including exacerbations (seven vs four) and pneumonia (one vs zero) were increased (if nonsignificantly) in the high-dose steroid-treated group along with significantly higher minor adverse events.

Importantly, chemokine and leukocyte function may be crucial elements in bronchiectasis for the development of effective neutrophil- and lymphocyte-mediated immune responses to infection. ICSs previously have been shown to reduce both airway CD4 lymphocytes and IL-8 in COPD, whereas in bronchiectasis, high-dose ICSs decreased airway leukocytes but increased bacterial density. 2 A large-scale study of ICS in COPD mirrored this infection concern by demonstrating an increased pneumonia risk in ICS-treated patients with COPD. 3

Bronchiectasis as an airways disease stands in distinction from other airways diseases. Fixed and progressive airflow obstruction (usually without bronchial hyperresponsiveness) is evident in the setting of recurrent or chronic airway infection and ongoing neutrophilic inflammation. 4 Recognizing these characteristics, therefore, challenges the paradigm by which the utility of ICS and LABA is measured in bronchiectasis and suggests the primacy of infection, inflammation, and exacerbations as determinants of outcomes in bronchiectasis.

In the bronchiectasis-ICS story, many questions remain unanswered. The safety and impact on infection and inflammation of ICS are as yet not well described, and definition of these is of fundamental importance. The comparative effects of ICS vs LABA also await elaboration and may require the study of a steroid-naïve population randomized to receive placebo, LABA, ICS, or LABA-ICS combination. The authors make an important contribution to this understanding.

REFERENCES

Response
To the Editor:

I would like to thank Dr Stirling for his interest in and comments on our recent article in CHEST 1 on the efficacy and safety of budesonide-formoterol in the management of non-cystic fibrosis bronchiectasis. In my opinion, the scenario we are currently facing in non-cystic fibrosis bronchiectasis is one of an inflammatory disease of the airways of growing epidemiologic importance with an inflammatory profile similar to that observed in COPD, albeit with a more substantial presence of bronchial infection, but also one in which only minimal scientific evidence is available. This means that in many cases, patients with bronchiectasis and chronic airflow obstruction are treated as patients with COPD or asthma and, therefore, receive therapies such as long-action...