



News Release

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Session B23: When I Get Home: Confronting the Challenges Of COPD Exacerbation

Monday, May 18, 2015, 9:30 a.m. – 11:30 a.m.

Location: Colorado Convention Center

Certain Risk Factors Can Predict the Risk for COPD Exacerbations In Patients Using Inhaled Medications

ATS 2015, DENVER—Gastroesophageal reflux disease (GERD), being female, and certain scores on the St. George's Respiratory Questionnaire (SGRQ) were associated with exacerbations of chronic obstructive pulmonary disease (COPD) in subjects using long-acting controller medication, according to a study presented at the 2015 American Thoracic Society International Conference.

“Knowing these factors can help clinicians identify subjects at risk for acute exacerbations of their COPD,” said Robert Busch, MD, Brigham and Women's Hospital, Boston.

Although inhaled medications can decrease the risk for exacerbations, some COPD patients still experience them, Dr. Busch said. Researchers aimed to determine the prospective risk factors for acute exacerbations (AE) of COPD among subjects in the COPDGene study, which focuses on genetic factors relating to COPD.

A total of 2489 adults with COPD on tiotropium (TIO), long-acting beta-agonist inhaled corticosteroids (LABA/ICS), and/or short-acting bronchodilators (SAB) alone or in combination were studied using retrospective data from the COPDGene study and prospective data from the telephone and web-based biannual Longitudinal Follow-Up program. Researchers divided subjects according to medication use groups (TIO/LABA/ICS, TIO, LABA/ICS, and SAB); exacerbators and nonexacerbators were identified by the frequency of AECOPD (one or more AECOPD a year compared with zero AECOPD for nonexacerbators).

In multiple medication groups, the presence of GERD, female gender, and higher total SGRQ scores were significant predictors of exacerbator status, according to the researchers.

Subjects in the LABA/ICS or TIO groups had similar characteristics, such as forced expiratory volume in one second, 6-minute walk distance, percent emphysema by CT scan, and pack-years of smoking.

There was a trend toward significantly lower rates of exacerbations in subjects taking TIO compared with those taking the LABA/ICS combination. This was especially true in subjects who did not have a doctor's diagnosis of asthma.

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** Please note that numbers in this release may differ slightly from those in the abstract. Many of these investigations are ongoing; the release represents the most up-to-date data available at press time.*

Abstract 61907

Risk Factors for COPD Exacerbations in Inhaled Medication Users: COPDGene Study Biannual Longitudinal Follow-Up

Type:

Scientific Abstract

Category:

06.03 - COPD: Epidemiology (CP/EOPH)

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Abstract Body

Rationale: Previous studies of chronic obstructive pulmonary disease (COPD) have shown that disease exacerbations impact the clinical course of COPD. Despite inhaled medications that decrease exacerbation risk, some COPD patients continue to have frequent exacerbations. We sought to determine prospective risk factors for acute exacerbations of COPD (AECOPD) among subjects in the COPDGene study taking inhaled respiratory medications.

Methods: A total of 2489 adult subjects with COPD using tiotropium (TIO), long-acting beta-agonist/inhaled corticosteroid (LABA/ICS), and/or short-acting bronchodilators (SAB) alone or in combination were studied using retrospective data from the COPDGene study and prospective data from the telephone- and web-based biannual Longitudinal Follow-Up program (LFU). Medication use groups (TIO/LABA/ICS, TIO, LABA/ICS, and SAB) were defined by subject self-report, and exacerbators and nonexacerbators were identified by the frequency of AECOPD (exacerbators had one or more AECOPD per year, non-exacerbators had zero AECOPD per year). We tested associations between AECOPD occurrence and demographics, spirometry, chest CT data, and comorbidities.

Results In multivariate models, the presence of GERD (OR = 1.62 [95% CI 1.11, 2.38] in TIO/LABA/ICS , OR = 2.75 [95% CI 1.10, 6.88] in TIO, and OR =1.96 [95% CI 1.21, 3.15] in LABA/ICS), female gender (OR = 1.53 [95% CI 1.05, 2.21] in TIO/LABA/ICS with and OR = 1.90 [95% CI 1.19, 3.05] in LABA/ICS), and higher total SGRQ scores (OR = 1.02 [95% CI 1.00, 1.03] in TIO/LABA/ICS and OR = 1.03 [95% CI 1.01, 1.04] in LABA/ICS) were significant predictors of exacerbator status in multiple medication groups. We found that subjects taking either LABA/ICS or TIO had similar characteristics such as forced expiratory volume in one second (FEV1), 6-minute walk distance, percent emphysema by CT scan, and pack-years of smoking. Comparing subjects taking tiotropium vs. long-acting beta-agonist/inhaled corticosteroid, tiotropium subjects showed a trend towards statistically significantly lower rates of exacerbations (OR = 0.69 [95% CI 0.45, 1.06], p= 0.09), especially in subjects without a doctor's diagnosis of asthma (OR =0.56 [95% CI 0.31, 1.00], p=0.05).

Conclusions: SGRQ scores, GERD, and female gender were associated with exacerbation risk in subjects taking long-acting COPD controller medication. Characteristic risk factor profiles for exacerbators may help identify subjects at risk for AECOPD. In subjects with moderate COPD where LABA/ICS or TIO are indicated, tiotropium showed a trend towards reduction in exacerbation risk in COPD subjects without asthma.