

Tiotropium and the Treatment of Chronic Obstructive Lung Disease

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The full report is titled “Prevention of Exacerbations of Chronic Obstructive Pulmonary Disease with Tiotropium, a Once-Daily Inhaled Anticholinergic Bronchodilator. A Randomized Trial.” It is in the 6 September 2005 issue of *Annals of Internal Medicine* (volume 143, pages 317-326). The authors are D.E. Niewoehner, K. Rice, C. Cote, D. Paulson, J.A.D. Cooper Jr., L. Korducki, C. Cassino, and S. Kesten.

What is the problem and what is known about it so far?

Chronic obstructive pulmonary disease (COPD) is a cigarette-associated abnormality of the lungs that is characterized by destruction of lung tissue and inflammation of the bronchial tubes. People with COPD usually notice chronic shortness of breath, cough, and wheezing (caused by spasm of the bronchial tubes). They may also experience abrupt worsening of their symptoms. These episodes are called exacerbations. Tiotropium is a new drug that relaxes bronchial spasm and seems to be effective in easing the chronic symptoms of COPD. Whether tiotropium is effective for preventing COPD exacerbations is less clear.

Why did the researchers do this particular study?

To see whether tiotropium could prevent exacerbations and decrease hospitalizations for COPD exacerbations.

Who was studied?

1829 patients older than 40 years of age who had moderate to severe COPD and were being cared for at Veterans Affairs Medical Centers.

How was the study done?

Researchers randomly assigned patients to receive either tiotropium or placebo (a look-alike but fake medication with no active ingredients). They collected information on symptoms and hospitalizations for COPD every month for 6 months. They then compared the number of exacerbations and hospitalizations in the 2 groups.

What did the researchers find?

Fewer patients receiving tiotropium had exacerbations than those receiving placebo. Tiotropium also reduced the number of hospitalizations for COPD exacerbations.

What are the limitations of the study?

Almost all patients were men, so the findings might not apply equally to women. The researchers compared the groups for only 6 months, and findings might differ over longer periods of time. Also, the researchers compared tiotropium with placebo, not with other drugs that are commonly used for treating COPD.

What are the implications of the study?

Tiotropium seems to be effective in reducing exacerbations and hospitalizations in patients with COPD. It is not necessarily more effective than other drugs commonly used to treat COPD.

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