Does Adding Olodaterol to Tiotropium Help COPD Patients with Breathlessness?

This is a summary of a clinical study in chronic obstructive pulmonary disease (COPD). It is written for the general public. It includes information about how researchers did the study and what the results were.

We thank all patients who took part in this study. Through your participation, you helped researchers answer important questions about tiotropium and olodaterol and the treatment of COPD.

What was this study about?

COPD is a disease that makes it difficult to breathe. It causes wheezing, shortness of breath, and chest tightness. Patients often have a cough that produces mucus. Breathlessness is one of the most concerning symptoms of COPD.

In this study, researchers compared 2 different treatments for COPD. They compared tiotropium with olodaterol to tiotropium alone as a treatment for patients with COPD. They contrasted how the 2 treatments helped patients with breathlessness.

This study started in September 2016 and finished in September 2017.

Why was the study needed?

Previous studies have shown the combination of tiotropium and olodaterol reduces breathlessness in patients with COPD. It was unclear if these 2 medicines taken in combination reduced breathlessness more than tiotropium taken alone.

Which medicines were studied?

Tiotropium and olodaterol are 2 different medicines. They are used to treat COPD. Tiotropium and olodaterol both help to open the airways and keep them open all day long (long-acting bronchodilators). Opening the airways makes it easier to breathe. Taking both medicines together opens the airways more than taking either medicine alone. This is because they work in different ways.

In this study, tiotropium alone and tiotropium with olodaterol came as solutions that needed to be inhaled. Patients used a special inhaler called the Respimat® to take the medicines. The Respimat® converts the medicines into a soft mist that can be inhaled. Patients breathed in this soft mist to take their medicine.

Who participated in the study?

The study included patients with COPD who experienced breathlessness during everyday activities. Patients were between 40 and 75 years of age when they were accepted into the study. Patients had a history of smoking or were current smokers.

Overall, 106 patients took part in the study. This included 66 men and 40 women. The average age was 64 years. The youngest patient was 48 years old. The oldest patient was 76 years old.

Eighty seven of the patients were from Western Europe. Nineteen of the patients were from North America.

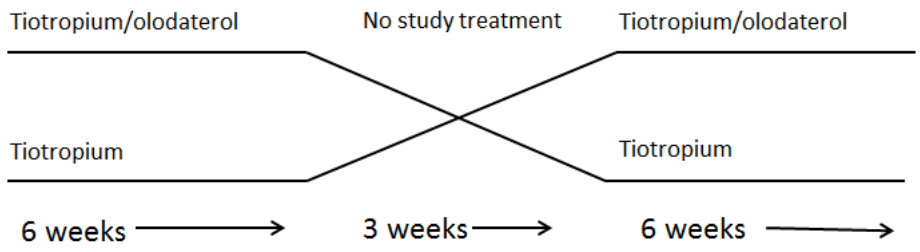
How was this study done?

Almost all patients completed the study and took both tiotropium with olodaterol and tiotropium alone for 6 weeks each.

About half of the patients started by taking tiotropium alone for 6 weeks. Then they took no study treatment for 3 weeks. Then they switched to take tiotropium with olodaterol for 6 weeks.

The other half of the patients started by taking tiotropium with olodaterol for 6 weeks. Then they took no study treatment for 3 weeks. Then they switched to take tiotropium alone for 6 weeks.

This is shown in the following picture.



The patients were subdivided into the 2 groups by chance. The patients did not know which treatment they were receiving. The doctors did not know either.

During treatment, all patients inhaled 2 puffs of medicine once a day in the morning. The 2 puffs contained 5 µg (micrograms) tiotropium with 5 µg olodaterol for one group of patients. For the other group of patients, the 2 puffs contained 5 µg tiotropium. Almost all patients were in both groups at different times.

The doctors wanted to know how the patients' level of breathlessness changed after 6 weeks of treatment. For this, patients did the Constant Speed Shuttle Test (CSST). This is a test to measure breathlessness after 3 minutes of walking at a certain speed. The doctors compared the patients' test results after 6 weeks of treatment with the results before treatment.

Patients visited their doctors regularly. During the visits, the doctors collected information on each patient's health.

What were the results of this study?

Researchers found that patients taking tiotropium with olodaterol had a greater reduction in breathlessness than patients taking tiotropium alone.

Changes in breathlessness were measured using the CSST walking test. The test results were measured using the Borg scale, which is measured in Borg units. The change in the patient's score from the beginning to the end of each treatment period was calculated. An improvement was shown as a negative number (which indicates a reduction in breathlessness).

Patients taking tiotropium with olodaterol had an average change in breathlessness of -1.33 Borg units. Patients taking tiotropium alone had an average change in breathlessness of -0.97 Borg units. Therefore, greater reductions in breathlessness were observed for tiotropium with olodaterol compared with tiotropium alone.

Researchers did statistical tests on the results. They found that it was unlikely that the difference between the treatments came about by chance.

Were there any unwanted effects?

Unwanted effects are any health problems that the doctors thought were caused by the study medicines. In this study, 3 out of 105 patients (3%) had unwanted effects during the treatment with tiotropium with olodaterol. Two out of 100 patients (2%) had unwanted effects during treatment with tiotropium. The unwanted effects are shown in the table below.

	Tiotropium with olodaterol 5 µg each (105 patients)	**Tiotropium 5 µg (100 patients)**
Patients with any unwanted effect	3 patients (3%)	2 patients (2%)
Cough	2 patients (2%)	1 patient (1%)
Sudden worsening of COPD	1 patient (1%)	0 patients
Throat pain (oropharyngeal pain)	1 patient (1%)	0 patients
Increase in the number of white blood cells (eosinophilia)	0 patients	1 patient (1%)

Are there follow-up studies?

No follow-up studies are currently planned.

If more clinical studies with tiotropium with olodaterol are done, they may be found on the public websites listed in the section below. To search for these studies, use the following names: Tiotropium + olodaterol FDC Respimat®, Stiolto® Respimat®, Spiolto® Respimat® Inspiolto® Respimat®.

Where can I find more information?

You can find the scientific summaries of the study results at these websites:

www.trials.boehringer-ingelheim.com	search for the study number: 1237.28
www.clinicaltrialsregister.eu	search for the EudraCT number: 2015-002974-20
www.clinicaltrials.gov	search for the NCT number: NCT02853123

The sponsor of this study was Boehringer Ingelheim.

The full title of the study is:

'A randomised, double-blind, cross-over study to evaluate the effect of 6 weeks treatment of orally inhaled tiotropium + olodaterol fixed dose combination (5/5 µg) compared with tiotropium (5 µg), both delivered by the Respimat® Inhaler, on breathlessness during the three minute Constant Speed Shuttle Test (3min CSST) in patients with Chronic Obstructive Pulmonary Disease (COPD) [OTIVATO™]'.

This was a Phase IV study.

Important notice

This summary shows only the results from one study and may not represent all of the knowledge about the medicine studied. Usually, more than one study is carried out in order to find out how well a medicine works and the side effects of the medicine. Other studies may have different results.

You should not change your therapy based on the results of this study without first talking to your treating physician. Always consult your treating physician about your specific therapy.

Boehringer Ingelheim has provided this lay summary in accordance with the European Union transparency obligations.