Effectiveness and Safety of Maintenance Treatment with Combination of Tiotropium and Olodaterol in Comparison to Maintenance Treatment with a Combination of Inhaled Corticosteroids and Long-acting β2 agonists in COPD patients

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Study Finalised

Administrative details

PURI

https://redirect.ema.europa.eu/resource/39824

EU PAS number

EUPAS35014

Study ID

39824

DARWIN EU® study

No

Study countries

☐ United States

Study description

The goal of this study is to compare patients treated with Tio+Olo with patients treated with LABA/ICS combination therapy in terms of COPD exacerbation risk, pneumonia risk, escalation to triple therapy and healthcare utilization, and to determine whether there is variation by history of COPD exacerbation and circulating eosinophil levels.

Study status

Finalised

Research institutions and networks

Institutions

HealthCore

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Institution

Contact details

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Study contact

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Primary lead investigator

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Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 22/05/2019

Actual: 22/05/2019

Study start date

Planned: 01/11/2019

Actual: 01/11/2019

Date of final study report

Planned: 31/08/2020

Actual: 16/09/2020

Sources of funding

- Pharmaceutical company and other private sector

More details on funding

Boehringer-Ingelheim

Study protocol

1237-0093_CTP_final-rule_Redacted.pdf(564.23 KB)

Regulatory

Was the study required by a regulatory body?

No

Is the study required by a Risk Management Plan (RMP)?

Not applicable

Other study registration identification numbers and links

ClinicalTrials.gov Identifier: NCT04138758

Methodological aspects

Study type

Study type list

Study topic:

Human medicinal product

Disease /health condition

Study type:

Non-interventional study

Scope of the study:

Effectiveness study (incl. comparative)

Safety study (incl. comparative)

Data collection methods:

Secondary use of data

Main study objective:

The primary objective was to compare the effectiveness of new use of maintenance therapy initiation with the combination treatment Tiotropium and Olodaterol (Tio+Olo) compared with new use of LABA/ICS combination therapy in COPD as the time to the first COPD exacerbation.

Study Design

Non-interventional study design

Cohort

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(R03AL06) olodaterol and tiotropium bromide

olodaterol and tiotropium bromide

(R03AK) Adrenergics in combination with corticosteroids or other drugs, excl. anticholinergics

Adrenergics in combination with corticosteroids or other drugs, excl. anticholinergics

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Medical condition to be studied

Chronic obstructive pulmonary disease

Population studied

Short description of the study population

The study cohort will be formed based on the following entry criteria.

Inclusion Criteria:

1. At least one prescription for Tio+Olo combined inhaler or a LABA/ICS combined inhaler between 1 January 2013 and 31 March 2019.

a) The first dispensing of either Tio+Olo or LABA/ICS combined inhaler will be defined as the index date.

b) For the main analyses, only fixed dose combination (FDC) inhalers will be included. Sensitivity analyses will also accept free combinations ofLABA/ICS.

2. At least one diagnosis of COPD at any time prior to the index date.

3. At least one year of continuous medical and pharmacy health plan eligibility prior to the index date will be required to allow a baseline period for the covariates and identification of new use of the study drugs.

Exclusion Criteria:

1. To increase the likelihood of a true diagnosis of COPD, we will exclude:

a) All patients less than 40 years of age on the index date, and
b) All patients with a diagnosis of asthma in the year prior to the index date
2. To limit the population to those without severe lung compromise outside of COPD, we will exclude individuals with lung cancer, interstitial lung disease, or lung transplant identified at any time prior to the index date
3. To restrict the cohort to new users of Tio+Olo or LABA/ICS, we will exclude any individual with use of either Tio+Olo, LABA/ICS, or LABA/LAMA/ICS combination therapy in free or fixed form for at least one year prior to the index date.

Age groups

Adults (46 to < 65 years)

Adults (65 to < 75 years)

Adults (75 to < 85 years)

Adults (85 years and over)

Special population of interest

Other

Special population of interest, other

Chronic obstructive pulmonary disease (COPD) patients

Estimated number of subjects

60000

Study design details

Outcomes

The primary outcome event for effectiveness was time to first COPD exacerbation after cohort entry, hospitalization for community-acquired pneumonia (serious pneumonia),escalation to triple therapy, and a composite outcome including exacerbation, hospitalization for pneumonia, or escalation to triple therapy

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Data analysis plan

Patient characteristics at baseline in patients treated with Tio+Olo and patients treated withLABA/LAMA/ICS will be described using standard descriptive statistics. High-dimensionalpropensity scores including both pre-specified and data-derived variables will then becalculated. We will use fine stratification and reweighting of the exposure propensity score to control for measured covariates.Cox proportional hazard regression model will be used to perform an as-treated analysis that assesses the effect of current use of LABA-ICS combination versus the Tio+Olo combination on the risk of a first COPD exacerbation. It will provide an estimate of the hazardratio (HR) of a COPD exacerbation.

Documents

Study results

1237-0093_c33177266-01_redacted.pdf(372.48 KB)

Data management

Data sources

Data source(s), other

HealthCore Integrated Research Database (HIRD) - US United States

Data sources (types)

Administrative healthcare records (e.g., claims)

Use of a Common Data Model (CDM)

CDM mapping

No

Data quality specifications

Check conformance

Unknown

Check completeness

Unknown

Check stability

Unknown

Check logical consistency

Unknown

Data characterisation

Data characterisation conducted

No