Effectiveness of triple therapy vs. dual bronchodilation in COPD (Effectiveness of triple therapy in COPD)

First published: 30/05/2017

Last updated: 02/07/2024

Study Ongoing

Administrative details

EU PAS number

EUPAS19323

Study ID

19324

DARWIN EU® study

No

Study countries

United Kingdom

Study description

Most patients with COPD can be managed using long-acting bronchodilators. Triple therapy – inhaled corticosteroids (ICS) with long-acting muscarinic antagonist and beta agonist (LAMA+LABA) - is the most intensive type of treatment, but it is uncertain whether patients do better on triple therapy TT compared to therapy with two bronchodilators only. More evidence is needed so that clinicians can make informed treatment decisions for their patients.The study aims to examine whether the effectiveness, in terms of reducing COPD-related exacerbations and loss of lung function, of triple therapy is superior to that of dual bronchodilation (LAMA+LABA) in patients with COPD. In addition, the potential heterogeneity of the effectiveness driven by patient's and therapy characteristics will be studied.The study uses a historic cohort design, and matches the patients between treatment groups, according to relevant demographic and clinical characteristics using information from anonymous primary care records of COPD patients.Two designs will be used to study the effectiveness of TT in COPD patients with a history of smoking: A. Patients who step-up from LAMA+LABA to TT will be compared with patients who remain on LAMA+LABAB. Patients who step-up from LAMA to TT will be compared with patients who step up to LAMA+LABAPrimary outcomes will be the occurrence of COPD exacerbations (number in first year and time to first event) and the average decline in forced expiratory volume in first second FEV1 per year during follow-up.A one year baseline period is used to identify variables for matching, and patients are followed up during an outcome period of at least one year. Exacerbations will be compared using conditional negative binomial regression to estimate the adjusted rate ratios with 95% confidence intervals. Stratified Cox regression will be used to compare the time to first exacerbation and a multilevel regression model to analyse change in FEV1 over time.

Study status

Ongoing

Research institutions and networks

Institutions

Observational & Pragmatic Research Institute Pte (OPRI)

United Kingdom

First published: 06/10/2015

Last updated: 20/08/2026

Institution | Educational Institution | Laboratory/Research/Testing facility | ENCePP partner

Contact details

Study institution contact

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Study contact

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Primary lead investigator

David Price

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 01/05/2017

Actual: 01/05/2017

Study start date

Planned: 15/05/2017

Actual: 15/05/2017

Data analysis start date

Planned: 01/06/2017

Date of final study report

Planned: 01/08/2017

Sources of funding

- Pharmaceutical company and other private sector

More details on funding

Chiesi

Study protocol

170526_OPRI Study protocol Triple Therapy study Chiesi_V1.1.pdf (1.5 MB)

Regulatory

Was the study required by a regulatory body?

No

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

Not applicable

Methodological aspects

Study type

Study type list

Study type:

Non-interventional study

Scope of the study:

Effectiveness study (incl. comparative)

Main study objective:

1. To examine whether the effectiveness of triple therapy is superior to that of dual bronchodilation (LAMA+LABA), in terms of reducing COPD-related exacerbations2. To study the potential heterogeneity of the effectiveness driven by patient’s and therapy characteristics 3. To establish the effectiveness of triple therapy on reducing long-term lung function decline

Study Design

Non-interventional study design

Cohort

Study drug and medical condition

Medical condition to be studied

Chronic obstructive pulmonary disease

Population studied

Age groups

- Adults (18 to < 46 years)
- Adults (46 to < 65 years)
- Adults (65 to < 75 years)
- Adults (75 to < 85 years)
- Adults (85 years and over)

Estimated number of subjects

25.000

Study design details

Outcomes

1. COPD exacerbations: number in first year and time to first event2. Average decline in forced expiratory volume in first second FEV1 per year, 1. Acute courses of oral corticosteroids (number in first year and time to first event) 2. Antibiotic prescriptions following lower respiratory consultation (number in first year and time to first event)3. Time to first hospitalisation with COPD as primary diagnosis4. Time to first A&E attendance related to COPD5. Time to first pneumonia diagnosis6. mMRC score within 18 months

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Data analysis plan

Patients will be matched between treatment groups, according to relevant demographic and clinical characteristics.Conditional negative binomial

regression will be performed to estimate adjusted Rate Ratios (RR) with 95% confidence intervals (CI) for the effect of treatment on outcomes that involve counted numbers of events over fixed time periods.An intention-to-treat time-to-event analysis will be performed to analyse the association between treatment and time to the first outcome event during follow-up after ID with right censoring at the time of death or loss to follow-up. Stratified Cox regression will be performed with time to the first event as the outcome variable to estimate Hazard Ratios (HR) with 95% CI of the treatment effect. Effect modification by patient and therapy characteristics will be studied by including interaction terms into the model.For objective 3, the change in FEV1 over time will be analysed using a multilevel model for change.

Data management

ENCePP Seal

The use of the ENCePP Seal has been discontinued since February 2025. The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

Data sources

Data source(s)

Clinical Practice Research Datalink

Optimum Patient Care Research Database

Data sources (types)

Electronic healthcare records (EHR)

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