Impact of EU label changes for hydroxyzine products: post-referral prescribing trends

First published: 03/12/2018

Last updated: 17/05/2024

Study Finalised

Administrative details

EU PAS number

EUPAS26363

Study ID

38866

DARWIN EU® study

No

Study countries

Denmark

Netherlands

United Kingdom

Study description

To evaluate the impact of the risk minimisation measures implemented in 2015 to manage the potential risk of QT interval prolongation and cardiac arrhythmia of hydroxyzine containing medicinal products authorised in the European Union (EU) in clinical practice.

Study status

Finalised

Research institutions and networks

Institutions

MEMO Research, University of Dundee

United Kingdom (Northern Ireland)

First published: 12/05/2010

Last updated: 19/05/2026

Institution | Educational Institution | Not-for-profit | ENCePP partner

UCL School of Pharmacy, University College London

United Kingdom

First published: 11/03/2010

Last updated: 21/04/2015

Institution | Outdated | Educational Institution | ENCePP partner

The PHARMO Institute for Drug Outcomes Research (PHARMO Institute)

Netherlands

First published: 07/01/2022

Last updated: 19/12/2025

Institution | Non-Pharmaceutical company | ENCePP partner

NHS National Services Scotland Glasgow, UK, University of Southern Denmark Denmark, University of Strathclyde Glasgow

Contact details

Study institution contact

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Study contact

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Primary lead investigator

Thomas MacDonald

Primary lead investigator

Study timelines

Date when funding contract was signed
Planned: 22/03/2018

Actual: 22/03/2018

Study start date
Planned: 01/07/2019

Actual: 01/07/2019

Date of final study report
Planned: 23/08/2019

Actual: 22/09/2019

Sources of funding

- EMA

Study protocol

Study Protocol Hydroxyzine_20072018 clean.pdf (329.4 KB)

Regulatory

Was the study required by a regulatory body?

Yes

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

Not applicable

Methodological aspects

Study type

Study topic:

Human medicinal product

Study type:

Non-interventional study

Scope of the study:

Drug utilisation

Effectiveness study (incl. comparative)

Data collection methods:

Secondary use of data

Main study objective:

The three main objectives are as follows: To determine prescription patterns of hydroxyzine containing products. To determine prescribers compliance with recommendations. To determine prescription patterns of alternative medicines prescribed in patients where hydroxyzine has previously been prescribed.

Study Design

Non-interventional study design

Cohort

Other

Non-interventional study design, other

Population-based longitudinal study, Time series analysis

Study drug and medical condition

Study drug International non-proprietary name (INN) or common name

HYDROXYZINE

Population studied

Short description of the study population

The study population consisted of all patients registered within each data source at any time during the study period. The start of follow-up for a patient was defined as date of registration with the general practice (CPRD and PHARMO), or date of first recorded prescription or any secondary care diagnosis (Denmark and
Scotland). A patient's index date was the latest of the study period start date (dependent on each data source), the date of birth, or their first database follow up date plus 1 year (to allow sufficient time for data on baseline covariates to be collected). A patient's end of follow-up was the date of the first occurrence of the following: death (all databases); end of study period (varies between countries); end of registration (end of registration would not significantly affect data from Denmark and Scotland because they use national data that captures patients moving within the health system). A patient was included for analysis in a time period if the first and last day both lay between the patient's index date and their last follow up date, so the analyses only included patients who are observable for the entire timeperiod.

Age groups

- Term newborn infants (0 – 27 days)
- Infants and toddlers (28 days – 23 months)
- Children (2 to < 12 years)
- Adolescents (12 to < 18 years)

- 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

100.000

Study design details

Data analysis plan

The proposed primary analysis will address the three objectives given above using interrupted time series regression to fit time trends to each series of time period data for each country. Using regression modelling we will evaluate: (1) The baseline slope before the intervention time point, (2) The change in slope from the baseline trend to the post-intervention trend, (3) The immediate change associated with the intervention time point. The effect of the intervention for each country will be represented either by a step function, or by a continuous linear function representing gradual implementation (interrupted time series analysis). This choice, and whether it is necessary to model any trends prior to the intervention time point, will be decided on visual inspection of the data. The analysis will be done by data source initially, and only pooled if the statistical models do not differ significantly between data sources.

Documents

Study results

EMA_hydroxyzine_final revised_061219.pdf (889.11 KB)

Study, other information

Hydroxyzine abstract_Final_040320.pdf (91.03 KB)

Study publications

Morales DR, Macfarlane T, MacDonald TM, Hallas J, Ernst MT, Herings RM, Smits E...

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.

This study has been awarded the ENCePP seal

Conflicts of interest of investigators

DoI_UoD_TMM_ 011118.pdf (911.35 KB)

Composition of steering group and observers

Steering Group_Hydroxyzine_May18v1.pdf (10.15 KB)

Steering Group_Hydroxyzine_V2_Dec18.pdf (10.25 KB)

Signed code of conduct

empty_file_1.pdf (11.35 KB)

Signed code of conduct checklist

empty_file_1.pdf (11.35 KB)

Signed checklist for study protocols

empty_file_1.pdf (11.35 KB)

Data sources

Data source(s)

Clinical Practice Research Datalink

Danish registries (access/analysis)

PHARMO Data Network

Data source(s), other

eDRIS

Data sources (types)

Drug dispensing/prescription data

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