Use of antidepressants and risk of hip/femur fracture. A methodological comparison across data sources and epidemiological design

First published: 06/09/2012

Last updated: 02/07/2024

Study Finalised

Administrative details

EU PAS number

EUPAS2382

Study ID

28309

DARWIN EU® study

No

Study countries

Denmark

Germany

Netherlands

Spain

United Kingdom

Study description

The studies described in this protocol are all performed within the framework of PROTECT (Pharmacoepidemiological Research on Outcomes of Therapeutics by a European ConsorTium) Work Package 2 and Working Group 1. The primary aim of these studies is to develop, test and disseminate methodological standards for the design, conduct and analysis of Pharmacoepidemiological (PE) studies applicable to different safety issues and using different data sources. To achieve this, results from PE studies on 5 key Drug / adverse events (D-AEs) pairs performed in different databases will be evaluated. The use of antidepressants associated with the risk of hip/femur fracture is one of the key D-Ae pair of interest. Therefore, emphasis will be on the methodological aspects of the studies in this protocol and not on the clinical consequences of studying the association under investigation.

Study status

Finalised

Research institutions and networks

Institutions

Division of Pharmacoepidemiology & Clinical Pharmacology (PECP), Utrecht Institute for Pharmaceutical Sciences (UIPS), Utrecht University

Netherlands

First published: 01/03/2010

Last updated: 27/05/2026

Institution | Educational Institution | ENCePP partner

Agencia Española de Medicamentos y Productos Sanitarios (AEMPS) Spain, European Medicines Agency (EMA) United Kingdom, Lægemiddelstyrelsen (Danish Medicines Agency) (DKMA) Denmark, Ludwig-Maximilians-Universität-München (LMU Muenchen) Germany, MerckSerono Switzerland

Networks

PROTECT

- Belgium
- Denmark
- France
- Germany
- Italy
- Netherlands
- Poland

Spain

Sweden

Switzerland

United Kingdom

First published: 26/06/2013

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Network

Contact details

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Study contact

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Primary lead investigator

Helga Gardarsdottir

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 19/08/2009

Actual: 19/08/2009

Study start date

Planned: 03/10/2011

Actual: 03/10/2011

Date of final study report
Planned: 01/09/2014

Actual: 01/03/2016

Sources of funding

- EU institutional research programme
- Pharmaceutical company and other private sector

More details on funding

Amgen, AstraZeneca, Genzyme, GlaxoSmithKline, MerckSerono, Novartis, Roche, Pfizer, Innovative Medicines Initiative (IMI)

Study protocol

PROTECT WP2_ Final Protocol_Antidep_HIP_14Nov2011_Amend1 30May2012.pdf (1.15 MB)

PROTECTWP2_FinalProtocol_Antidep_HIP_14nov2011_Amend5_220114.pdf (1.12 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 topic:

Disease /health condition

Human medicinal product

Study type:

Non-interventional study

Scope of the study:

Assessment of risk minimisation measure implementation or effectiveness

Disease epidemiology

Other

If ‘other’, further details on the scope of the study

Analysis of discrepancies in results between different databases

Data collection methods:

Secondary use of data

Main study objective:

To assess the association between the use of antidepressants and the risk of hip/femur fracture with different study designs across different primary care databases and to compare the results between databases, across designs to evaluate the impact of design/database/population differences on the outcome of the studied association.

Study Design

Non-interventional study design

Case-control

Cohort

Other

Non-interventional study design, other

Case-crossover, Descriptive study= description of exposure and/or outcome in the whole database during a defined period of time

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(N06AA) Non-selective monoamine reuptake inhibitors

Non-selective monoamine reuptake inhibitors

(N06AB) Selective serotonin reuptake inhibitors

Selective serotonin reuptake inhibitors

Medical condition to be studied

Hip fracture

Femur fracture

Population studied

Short description of the study population

All patients included in the period of valid data collection. The study period will be defined from January 1, 2001 to December 31, 2009.

Age groups

- Preterm newborn infants (0 – 27 days)
- 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

55.700.000

Study design details

Data analysis plan

Retrospective cohort: incidence rates (IR) of hip/femur fractures (outcome) will be calculated in current, recent & past users. Past use will be the reference category. Poisson regression (regr) will be used to estimate age & gender adjusted IRR. Time-dependent Cox proportional hazards models will also be used to calculate HR and 95% CIs. Nested case control:Conditional logistic regr analysis will be used to estimate the risk of the outcome associated with the current use of AD as compared to past use. The risks will be calculated in terms

of odds ratios (OR) with corresponding 95% CI. case-crossover For each case, the cumulative exposure will be assessed in the 6 months before the index date (at-risk period). For each case up to 4 control moments will be defined at 6 months intervals starting immediately prior to the at-risk period. Cumulative exposure will also be assessed in these 'control' person moments.Conditional logistic regression analysis will be done

Documents

Study publications

The results of this project have been published in Pharmacoepidemiology & Drug ...

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.

Signed checklist for study protocols

ENCePPChecklistforStudyProtocols_H Gardarsdottir signed.pdf (264.77 KB)

Data sources

Data source(s)

THIN® (The Health Improvement Network®)

Data sources (types)

Administrative healthcare records (e.g., claims)

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

Unknown