RISK OF AGRANULOCYTOSIS ASSOCIATED WITH THE USE OF DRUGS

First published: 07/05/2012

Last updated: 03/09/2024

Study Planned

Administrative details

EU PAS number

EUPAS2548

Study ID

10857

DARWIN EU® study

No

Study countries

☐ Spain

Study description

The objective of this study is to estimate the risk of agranulocytosis associated with the use of drugs. Agranulocytosis is a serious condition, with an estimated incidence of 1.6:1 million to 7.0:1 million inhabitants per year.1,2 Case fatality

is around 10%, but this may depend to a large extent on the availability of prompt antibiotic treatment. Almost all classes of medicines have been implicated in agranulocytosis. Since 1980, a case-control surveillance study of Agranulocytosis has been carried out in the metropolitan area of Barcelona. With the aim of identifying all cases of agranulocytosis occurring in the study population. Our centre maintains regular contact with a designated hematologist of all hospitals in the area. Potential cases are patients with a granulocyte count of <500/mm3, or a total white series count of <3,000/mm3 in two consecutive counts, with a hemoglobin level of 10 g/dl and a platelet count of 100,000/mm3.

Study status

Planned

Research institutions and networks

Institutions

Fundació Institut Català de Farmacologia (FICF)

Spain

First published: 29/03/2010

Last updated: 17/09/2019

Institution | Outdated | Educational Institution | Hospital/Clinic/Other health care facility | Not-for-profit | ENCePP partner

Bellvitge University Hospital

First published: 01/02/2024

Last updated: 01/02/2024

Institution

University Hospital Vall d'Hebron (HUVH)

Spain

First published: 01/02/2024

Last updated: 01/02/2024

Institution | Educational Institution | Hospital/Clinic/Other health care facility

Clinical Pharmacology Department, Area del Medicament, Hospital Clínic de Barcelona

Spain

First published: 29/03/2010

Last updated: 24/08/2023

Institution | Hospital/Clinic/Other health care facility | ENCePP partner

Parc de Salut Mar Barcelona (PSMAR)

Spain

First published: 01/02/2024

Last updated: 01/02/2024

Institution | Hospital/Clinic/Other health care facility

Consorci Corporació Sanitària Parc Taulí

Spain

First published: 01/02/2024

Last updated: 01/02/2024

Institution | Educational Institution | Hospital/Clinic/Other health care facility

Institut de Recerca de l'Hospital de la Santa Creu i Sant Pau – IIB Sant Pau

First published: 01/02/2024

Last updated: 01/02/2024

Institution

Hospital Universitari Vall d'Hebron Barcelona, Hospital de la Santa Creu i Sant Pau Barcelona, Hospital del Mar Barcelona, Hospital de Barcelona Barcelona, Fundació Hospital/Asil de Granollers

Granollers, Hospital de Mataró Mataró, Hospital Universitari Germans Trias i Pujol Badalona, Hospital de Terrassa Terrassa, Hospital Universitari de Bellvitge Bellvitge, Corporació Sanitària i Universitària Parc Taulí Sabadell

Networks

EUDRAGENE

- [ ] France
- [ ] Italy
- [ ] Netherlands
- [ ] Spain
- [ ] Sweden
- [ ] United Kingdom

First published: 04/06/2010

Last updated: 20/08/2024

Network

Contact details

Study institution contact

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Study contact

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Primary lead investigator

Joan-Ramon Laporte

Primary lead investigator

Study timelines

Date when funding contract was signed
Planned: 01/01/1980

Study start date
Planned: 01/01/1980

Data analysis start date
Planned: 01/01/1986

Date of final study report
Planned: 31/07/2015

Sources of funding

- Other

More details on funding

Agencia Española del Medicamento

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:

Assessment of risk minimisation measure implementation or effectiveness

Main study objective:

The main objective is to estimate the risk of Agranulocytosis associated to several drugs.

Study Design

Non-interventional study design

Case-control

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(N02) ANALGESICS

ANALGESICS

Medical condition to be studied

Agranulocytosis

Population studied

Age groups

- 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

1200

Study design details

Outcomes

Odds ratios are calculated after controlling for confounding by applying a multiple logistic regression model, including potential known confounders and drug terms. Case-fatality rate for drugs showing odds ratio values significantly higher than one, population attributable risks are calculated from the odds

ratio.

Data analysis plan

The analysis is performed with an unconditional and conditional multiple logistic regression model.For increasing statistical power for risk estimation associated with drugs having a low prevalence of use, the analysis is done with all the cases for which information on drug exposures is available, and their respective controls of agranulocytosis. The model included sex, age, and interviewer as additional terms. Drug exposures are considered in different ways. The main analysis refers to any exposure during the week before the index day, this definition of exposure is decided after taking into account that for most of the cases of agranulocytosis, the time elapsed from injury of the bone marrow or of peripheral neutrophils to the appearance of the initial symptoms of infection is usually less than 7 days. The following 2 additional confirmatory analyses are performed: one, with the aim of exploring possible information bias, and the other, to evaluate protopathic bias.

Documents

Study publications

Ibáñez L, Vidal X, Ballarín E, Laporte JR. Population-based drug-induced agranu...

Ibáñez L, Sabaté M, Ballarín E, Puig R, Vidal X, Laporte JR, Agranulocytosis an...

Ibanez L, Vidal X, Ballarín E, Laporte JR. Agranulocytosis associated with dipy...

Ibáñez L, Ballarín E, Vidal X, Laporte JR. Agranulocytosis associated with calc...

Ibáñez L, Ballarín E, Pérez E, Vidal X, Capellà D, Laporte JR. Agranulocytosis ...

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 sources (types)

Other

Data sources (types), other

Case-control surveillance database

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