Study on the association of uterine perforation and intrauterine device (IUD) expulsion with breastfeeding status at the time of IUD insertion and postpartum timing of IUD insertion in electronic medical record databases. A postmarketing requirement for Mirena (APEX IUD)

First published: 04/02/2020

Last updated: 02/07/2024

Study Finalised

Administrative details

EU PAS number

EUPAS33461

Study ID

38003

DARWIN EU® study

No

Study countries

United States

Study description

This study is an US postmarketing requirement that investigates the outcomes of uterine perforation and intrauterine device (IUD) expulsion in association with breastfeeding, postpartum exposures and type of IUD.The study aims to quantify the risk of uterine perforation and IUD expulsion in relation to the breastfeeding status and postpartum time (≤ 6, > 6 ≤ 14, > 14, ≤ 52 or > 52 weeks postpartum, including women without a recorded delivery within the past 52 weeks) at the time of IUD insertionThis study will also assess the risk of both perforation and expulsion by type of IUD. The effect of IUD types (LNG-releasing vs. copper) on the association between perforation/ expulsion and breastfeeding status/ postpartum status, as well as the effect of breastfeeding status on the association between perforation and/or expulsion and postpartum status are also investigated.

Study status

Finalised

Research institutions and networks

Institutions

RTI Health Solutions (RTI-HS)

France

Spain

Sweden

United Kingdom

United Kingdom (Northern Ireland)

United States

First published: 21/04/2010

Last updated: 13/03/2025

Institution | Not-for-profit | ENCePP partner

Kaiser Permanente Northern California Oakland, USA, Kaiser Permanente Southern California Pasadena, USA, Kaiser Permanente Washington Seattle, USA, Regenstrief Institute Indianapolis, USA

Contact details

Study institution contact

Bayer Clinical Trials Bayer AG Clinical-Trials-Contact@bayer.com

Study contact

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Primary lead investigator

Bayer Clinical Trials Bayer AG

Primary lead investigator

Study timelines

Date when funding contract was signed
Planned: 29/06/2016

Actual: 29/06/2016

Study start date
Planned: 01/12/2018

Actual: 03/12/2018

Date of final study report
Planned: 30/04/2020

Actual: 03/03/2020

Sources of funding

- Pharmaceutical company and other private sector

More details on funding

Bayer AG

Study protocol

19682_Study Protocol_v1.0_2019-06-29_Redacted.pdf (708.64 KB)

Regulatory

Was the study required by a regulatory body?

Yes

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

Non-EU RMP only

Other study registration identification numbers and links

CT.gov: NCT03754556Bayer No.: 19682

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

Data collection methods:

Secondary use of data

Main study objective:

1. To compare the risk of uterine perforation among women who were breastfeeding versus women who were not breastfeeding at the time of first IUD insertion2. To evaluate the risk of uterine perforation among women who had their first IUD insertion within different time periods postpartum, including women without a recorded delivery

Study Design

Non-interventional study design

Cohort

Study drug and medical condition

Medicinal product name, other

Mirena

Anatomical Therapeutic Chemical (ATC) code

(G02BA03) plastic IUD with progestogen

plastic IUD with progestogen

Medical condition to be studied

Uterine perforation

Device expulsion

Population studied

Short description of the study population

The study population will be women with evidence of insertion of an IUD during the study period who were no more than 50 years of age at the time of the insertion. Only women with available EHR records from 12 months before the day of IUD insertion and onward will be included in this study.

Age groups

- Adolescents (12 to < 18 years)
- Adults (18 to < 46 years)
- Adults (46 to < 65 years)

Special population of interest

Women of childbearing potential not using contraception

Women of childbearing potential using contraception

Estimated number of subjects

225000

Study design details

Outcomes

Person-time at risk / Confirmed date of uterine perforation / Confirmed date of IUD-expulsion, Incidence rate & Cumulative incidence rate of uterine perforation or IUD expulsion / Incidence of difficult IUD-insertion / Adjusted hazard ratio of uterine perforation or IUD-expulsion / Adjusted incidence rate ratio (IRR) & Adjusted incidence rate difference (IRD) of uterine perforation or IUD expulsion / Effect modification for uterine perforation or IUD expulsion

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Data analysis plan

Descriptive analyses for all variables of interest will be presented overall and stratified by database. For categorical variables, frequencies and percentages will be presented for each level. For continuous variables, the mean, standard deviation, minimum, maximum, median, and quartiles will be presented. For estimates, two-sided 95% confidence intervals will be calculated.Crude incidence rates and cumulative incidence of the outcomes will be estimated for each exposure group.Crude hazard ratios will be calculated for each outcome without adjustment for covariates within each database. Confounding adjustment will be performed via overlap weighting. Adjusted hazard ratios will be calculated accounting for the propensity score–based weighting approach.Effect estimates across datasources will be estimated. Analyses of the adjusted hazard ratios for the two primary objectives combined will include hypothesis testing using two-sided statistical test.

Documents

Study results

19682_CSR abstract_v1.0_2020-11-11.pdf (356.07 KB)

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.

Conflicts of interest of investigators

19682_CSR_v1.0_2020-11-11_Redacted.pdf (9.37 MB)

Data sources

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