

# Adverse ReNal OuTcomEs in patients with NoN-Valvular Atrial fibrillation treated with Rivaroxaban or Vitamin K Antagonists (ANTENNA)

**First published:** 05/03/2020

**Last updated:** 29/03/2024

Study

Finalised

## Administrative details

### **PURI**

<https://redirect.ema.europa.eu/resource/41352>

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### **EU PAS number**

EUPAS33537

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### **Study ID**

41352

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### **DARWIN EU® study**

No

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## Study countries

United Kingdom

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## Study description

By evaluating routine clinical practice data from the UK primary care database, researchers in this study want to gather information on the kidney function of patients with non-valvular atrial fibrillation (NVAf, irregularly heart beats which is not caused by a heart valve problem) who are treated with Rivaroxaban (non-vitamin K antagonist, brand name Xarelto) or vitamin K antagonists (VKAs). The study planned to enroll about 25,000 male or female patients who were at least 18 years old and were new users of Rivaroxaban or VKAs between 01 January 2014 and 30 September 2019. Researchers are especially interested in whether patients experienced under treatment any worsening in kidney function, the onset of acute kidney diseases or injuries. In addition, risk of worsening in kidney function in patients with or without diabetes or heart failures are of interest to the researchers

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## Study status

Finalised

## Research institutions and networks

### Institutions

Fundación Centro Español de Investigación  
Farmacoepidemiológica (CEIFE)

Spain

**First published:** 15/03/2010

Last updated: 15/02/2024

Institution

Not-for-profit

ENCePP partner

## Contact details

### Study institution contact

Bayer Clinical Trials BAYER AG

Study contact

[clinical-trials-contact@bayer.com](mailto:clinical-trials-contact@bayer.com)

### Primary lead investigator

Bayer Clinical Trials BAYER AG

Primary lead investigator

## Study timelines

### Date when funding contract was signed

Planned: 02/02/2020

Actual: 02/02/2020

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### Study start date

Planned: 01/05/2020

Actual: 01/05/2020

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### Date of final study report

Planned: 30/04/2021

Actual: 27/04/2021

## Sources of funding

- Pharmaceutical company and other private sector

## More details on funding

Bayer AG

## Study protocol

[Study 21347\\_Study protocol\\_Version 1\\_02Feb2020.pdf\(1.51 MB\)](#)

## Regulatory

### **Was the study required by a regulatory body?**

No

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### **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

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**Study type:**

Non-interventional study

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**Scope of the study:**

Other

**If 'other', further details on the scope of the study**

Evaluation of possible difference in renal function decline under rivaroxaban and warfarin chronic treatment

**Data collection methods:**

Secondary use of data

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**Main study objective:**

To estimate the magnitude of renal decline, incidence of end-stage renal disease (ESRD) and acute kidney injury (AKI) in patients with NVAF treated with rivaroxaban and those treated with a VKA according to the presence of CKD and its severity at the start of OAC therapy in UK primary care

## Study Design

**Non-interventional study design**

Case-control

Cohort

## Study drug and medical condition

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

RIVAROXABAN

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## **Anatomical Therapeutic Chemical (ATC) code**

(B01AA03) warfarin

warfarin

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## **Additional medical condition(s)**

Non-Valvular Atrial fibrillation

## Population studied

### **Short description of the study population**

Patients with NVAf newly initiated on OAC therapy with either rivaroxaban or a VKA.

#### Inclusion criteria

- aged  $\geq 18$  years in the IMRD-UK database
- a first prescription for either rivaroxaban or a VKA between 01 January 2014 and 31 March 2019. The date of the first rivaroxaban/VKA prescription will be set as the start date (start of follow-up for that patient). The follow-up will be extended until 30 September 2019 to ensure that each patient has at least 6 months of potential follow-up.
- A diagnosis of AF recorded any time before start date or within 2 weeks after start date.
- Registered with their general practice at least 1 year before the start date and have a recorded prescription of any drug at least 1 year before the start date.
- Registered with a general practice with data considered to be up-to-standard quality.

#### Exclusion criteria

- A prescription for any OAC before the start date – all first-time rivaroxaban/VKA users will therefore be OAC naïve
  - A record of heart valve replacement or mitral stenosis any time before the start date or in the 2 weeks after the start date.
  - A record of deep vein thrombosis, pulmonary embolism, or hip/knee surgery in the 3 months before the start date (because these are all alternative reasons for NOAC initiation)
  - A record of ESRD (including renal transplant patients) on/before the start date
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### **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)

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### **Special population of interest**

Other

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### **Special population of interest, other**

Atrial fibrillation patients

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### **Estimated number of subjects**

25000

## Study design details

## Outcomes

- %change in serum creatinine - doubling of serum creatinine - rate of eGFR change - %eGFR change - incidence of ESRD and AKI

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## Data analysis plan

Cohort analyses: The difference in the eGFR slopes after initiation between patients starting on rivaroxaban and on a VKA will be assessed using a linear mixed regression model. Only individuals with at least two recorded eGFR measurements after treatment initiation will be included in this analysis.

Incidence rates of each adverse renal outcome will be calculated with 95% CIs assuming a Poisson distribution. Incidence rates will be stratified by age-group, sex, CKD stage at baseline, the starting OAC, and for rivaroxaban, the dose of the starting prescription (20 mg/day or 15 mg/day). A survival analysis using Cox proportional hazard regression, will be performed to compare the time to the occurrence of the study outcomes according to the starting OAC.

Case-control analyses: Unconditional logistic regression will be used to ORs with 95% CIs to estimate the associations between current exposure to rivaroxaban/VKA and the study outcomes adjusted for confounders

## Documents

### Study results

[21347\\_EU PAS Abstract\\_redacted\\_V1.0\\_2021-04-27.pdf](#)(303.9 KB)

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### Study report

[21347\\_Study Report\\_redacted\\_V1.0\\_2021-04-27.pdf](#)(1.14 MB)

## Data management

## Data sources



**Data source(s)**

THIN® (The Health Improvement Network®)

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**Data source(s), other**

THIN

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**Data sources (types)**

[Electronic healthcare records \(EHR\)](#)

## Use of a Common Data Model (CDM)

**CDM mapping**

No

## Data quality specifications

**Check conformance**

Unknown

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**Check completeness**

Unknown

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**Check stability**

Unknown

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**Check logical consistency**

Unknown

## Data characterisation

## **Data characterisation conducted**

No