

# Efficacy and safety of prolonged use of aspirin or rivaroxaban after surgery for hip fractures

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<b>Registration date</b> 01/07/2019	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 29/08/2019	<b>Condition category</b> Circulatory System	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Venous thromboembolism (VTE) is a condition in which a blood clot forms most often in the deep veins of the leg, groin or arm (known as deep vein thrombosis, DVT) and travels in the circulation, lodging in the lungs (known as pulmonary embolism, PE). Together, DVT and PE are known as VTE - a dangerous, potentially deadly medical condition. VTE is a serious complication with a high incidence during and after hospitalization, and it is also an important factor in deaths before and after surgery and unexpected deaths in hospitals. In patients who undergo hip fracture surgery, it is recommended that the duration of drug prevention be at least 10 days and extendable to 11–35 days. Several studies have shown that extended prophylaxis substantially reduces the risk of VTE and recommend a longer prophylaxis duration in all patients undergoing hip fracture surgery. This study compares the use of aspirin and rivaroxaban for the prevention of blood clots following hip surgery.

### Who can participate?

Patients with hip fracture who require surgery.

### What does the study involve?

All patients were given enoxaparin after the operation and returned to a routine dose the next day until postoperative day five. The patients in the aspirin group received an additional 16 days of thromboprophylaxis with 100 mg of aspirin once daily. The rivaroxaban group was assigned to receive an additional 16 days of thromboprophylaxis with 10 mg of oral rivaroxaban once daily.

### What are the possible benefits and risks of participating?

None

### Where is the study run from?

Chengdu Fifth People's Hospital, Chengdu, China

### When is the study starting and how long is it expected to run for?

November 2011 to March 2018

Who is funding the study?  
Investigator funded

Who is the main contact?  
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## Contact information

**Type(s)**  
Public

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## Additional identifiers

**Clinical Trials Information System (CTIS)**  
Nil known

**ClinicalTrials.gov (NCT)**  
Nil known

**Protocol serial number**  
Nil known

## Study information

**Scientific Title**  
Comparison of the efficacy and safety of aspirin and rivaroxaban following enoxaparin treatment for prevention of VTE after hip fracture surgery

**Acronym**  
CESARFETPVTEHFS

**Study objectives**

Aspirin may have equal efficiency and safety with the direct oral anticoagulant rivaroxaban for the prevention of venous thromboembolism after hip fracture surgery

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Approved 16/09/2011, Medical Ethics Committee of Chengdu Fifth People's Hospital (No. 56 Wanchun East Road, Wenjiang District, Chengdu, Sichuan Province, China; 028-82783867; cdwyiec@163.com), ref: 2019075101

**Study design**

Interventional pseudorandomised trial

**Primary study design**

Interventional

**Study type(s)**

Prevention

**Health condition(s) or problem(s) studied**

Prevention of venous thromboembolism after hip fracture surgery

**Interventions**

The patients were divided into the aspirin group and rivaroxaban group according to odd or even number of the end of the registration number. All patients were given enoxaparin subcutaneous injection after the operation and returned to a routine dose the next day until postoperative day 5. The patients in the aspirin group received an additional 16 days of thromboprophylaxis with 100 mg of aspirin once daily. The rivaroxaban group was assigned to receive an additional 16 days of thromboprophylaxis with 10 mg of oral rivaroxaban once daily.

**Intervention Type**

Drug

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

Aspirin, rivaroxaban

**Primary outcome(s)**

1. Adjudicated venous thromboembolism, which was defined as deep vein thrombosis involving the inferior vena cava to popliteal vein or pulmonary embolism. Ultrasonography of the lower extremity vein is a routine examination. All patients had to be examined before and after surgery. Pulmonary embolism was confirmed by computed tomographic pulmonary angiography, when the patient's symptoms are suspected to be a pulmonary embolism.
2. The primary safety outcome was bleeding, including major or clinically relevant nonmajor bleeding, according to Anderson's criteria. Patients were followed for 90 days regarding venous thromboembolism and bleeding complications.

**Key secondary outcome(s)**

Incidence of health issues in the 90 days following the intervention:

1. Death
2. Myocardial infarction
3. Stroke
4. Wound infection.

**Completion date**

31/03/2018

**Eligibility****Key inclusion criteria**

1. Hip fracture who were diagnosed by X-ray and/or computed tomography.

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

1. Lower extremity DVT confirmed by preoperative ultrasonography
2. History of thromboembolic disease and undergoing anticoagulant therapy
3. Presence of hemorrhagic diseases and/or a major bleeding history
4. Severe liver or kidney diseases
5. Coagulation disorders
6. Allergy to enoxaparin, aspirin, or rivaroxaban
7. Platelet count less than  $100 \times 10^9$  cells/L

**Date of first enrolment**

12/11/2011

**Date of final enrolment**

02/01/2018

**Locations****Countries of recruitment**

China

**Study participating centre**

**Chengdu Fifth People's Hospital**  
No.33 Ma-shi street  
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Chengdu  
China  
611130

## Sponsor information

### Organisation

Department of Orthopedic Surgery, West China Hospital, Sichuan University

### ROR

<https://ror.org/007mrxy13>

## Funder(s)

### Funder type

Other

### Funder Name

Investigator initiated and funded

## Results and Publications

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes