

# Colchicine for the prevention of postoperative atrial fibrillation in patients undergoing Coronary Artery By-pass Grafting

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<b>Registration date</b> 10/07/2013	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 10/07/2013	<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

Postoperative atrial fibrillation (POAF) (irregular heart beat) is the most common complication after a heart surgery, affecting 20-30% of patients after coronary artery bypass graft (CABG) surgery and up to 50% after combined CABG/valve surgery. Nowadays, POAF prevention has become important because of its great clinical and economic burden. Indeed, POAF is associated with a worse mid-time and long-time prognosis and also with increased costs. Various different factors are responsible for causing POAF and they are not completely understood yet. Previous research suggests that anti-inflammatory agents (pain killers) may potentially be useful in the treatment methodology. Colchicine, a non-steroid anti-inflammatory agent, reduced complications in patients undergoing heart surgery and was also safe. Further, colchicine was also found to reduce the occurrence of POAF after a heart surgery. The purpose of this study is to find out how well colchicine works in preventing POAF in patients undergoing CABG surgery.

### Who can participate?

All patients referred to undergo CABG surgery can participate in the study.

### What does the study involve?

Patients are randomly allocated to receive colchicine or a placebo (dummy) starting from the day before the heart surgery until they get discharged from the hospital. They are checked using various tests like, continuous ECG (electrocardiogram) display, telemetry and Holter ECG for the occurrence of irregular heart beat.

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

Postoperative atrial fibrillation is the most common complication after heart surgery. There are evidences that it is associated with predicting the likelihood of future diseases and it may lead to extended hospital stay and cost. Reducing its occurrence will prevent all the above. The major risk of the study is the possible occurrence of colchicine toxicity that is rare and usually associated with higher doses in patients with normal kidney and liver function. Some side effects like stomach discomfort or diarrhoea can bother some patients.

Where is the study run from?

The study is run from the the Cardiac Surgery Unit , the Catholic University of the Sacred Heart, Rome, Italy.

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

The study starts to enroll participants from July 2013. Given the number of patients, it is expected to last for at least 12 months.

Who is funding the study?

The Catholic University of the Sacred Heart, Rome, Italy.

Who is the main contact?

Prof Claudio Pragliola

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## Contact information

### Type(s)

Scientific

### Contact name

Prof Claudio Pragliola

### Contact details

Catholic University of the Sacred Heart

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## Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

AF2/2013

## Study information

### Scientific Title

A randomized double blind controlled study to determine whether the use of colchicine is effective in reducing the incidence of atrial fibrillation after coronary artery by-pass grafting

**Acronym**

COVER CABG

**Study objectives**

We are verifying the hypothesis that the use of colchicine (1 mg bid) started 24 hrs before surgery and administered postoperatively (0.5mg bid) until hospital discharge (or for a maximum of 10 days) will significantly reduce the incidence of postoperative atrial fibrillation in the patients submitted to coronary artery by-pass surgery

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Ethics Commission of Catholic University of the Sacred Heart Roma May 2013

**Study design**

Controlled randomized double blind

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

Hospital

**Study type(s)**

Prevention

**Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

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

Coronary Artery Disease Coronary Artery Surgery Atrial Fibrillation

**Interventions**

Patients will be randomized to receive placebo or colchicine, in addition to standard therapy, using a computer generated table of casual numbers. A separate randomization will be followed for patients with a history of previous paroxysmal atrial fibrillation.

Treatment will be started on day -1 (i.e., the day before CABG surgery) and continued until hospital discharge. Patients randomized to colchicine will receive 1 mg bid on day -1 and then 0.5 mg twice a day until discharge or for a maximum of 10 days. A half dose will be administered in patients <70 kg. All patients will give informed written consent to participation in the study, which will comply with the Declaration of Helsinki.

**Clinical assessment**

For each patient demographic data and clinical history, including drug therapy, coronary angiography and significant comorbidities will be collected.

## Assessment of atrial fibrillation

The occurrence of AF during hospital stay will be assessed through the following methods:

1. continuous ECG monitoring in ICCU (Intensive Cardio-surgical Care Unit)
2. forty-eight-hour ECG Holter monitoring in the first two days after ICCU discharge
3. Two standard ECG recordings (in the morning and in the evening) from the third day after ICCU discharge until the end of the study
4. Immediate ECG recording in case of arrhythmic symptoms

## Holter ECG monitoring

Holter ECG recordings will be done using 3-channel recorders. Detailed analysis of arrhythmias will be performed. Furthermore, heart rate variability (HRV) will be analysed, both in the time-domain and in the frequency-domain, in order to assess the possible relation of cardiac autonomic imbalance with the occurrence of post-operative atrial fibrillation (POAF).

## Echocardiography

A two-dimensional echocardiographic Doppler examination will be performed before CABG surgery and at discharge, in order to assess atrial/ventricular dimensions, valvular defects and the occurrence of pericardial effusion.

## Blood markers of inflammation

A venous blood sample will be collected before CABG surgery, on first day of Holter monitoring and at discharge to assess inflammatory state by measuring white cells count, C-reactive protein, VES, interleukin-6 (IL-6) and fibrinogen serum levels.

## Intervention Type

Drug

## Phase

Not Specified

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

Colchicine

## Primary outcome measure

Postoperative Atrial Fibrillation as defined by the 2010 ESC Guideline for the treatment of Atrial Fibrillation occurring at any time during the postoperative period . The arrhythmia may be detected by any of the following postoperative exams a) ECG monitoring in the ICU; b) 48 hrs Holter ECG thereafter ; c) 12 Leads ECG twice a day until hospital discharge

## Secondary outcome measures

Occurrence of any atrial arrhythmia

Occurrence of any arrhythmia necessitating drug suspension

Occurrence of any complication or major side effect of Colchicine

## Overall study start date

01/07/2013

## Completion date

31/07/2014

## Eligibility

**Key inclusion criteria**

All the patients electively submitted to coronary artery by-pass grafting with arterial conduits and without contraindications to colchicine

**Participant type(s)**

Patient

**Age group**

Not Specified

**Sex**

Both

**Target number of participants**

320

**Key exclusion criteria**

1. Patients with preoperative atrial fibrillation
2. Known contraindication to Colchicine
3. Transaminases on admission more than 1.5 times the normal values
4. Creatinine clearance less than 30 ml/min
5. History of myopathy or elevated creatinine kinase
6. Hematologic disease
7. Gastrointestinal disease
8. Presence of systemic inflammatory or autoimmune disease

**Date of first enrolment**

01/07/2013

**Date of final enrolment**

31/07/2014

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

Italy

**Study participating centre**

Catholic University of the Sacred Heart

Rome

Italy

00168

**Sponsor information**

**Organisation**

Catholic University of the Sacred Heart-Rome (Italy)

**Sponsor details**

c/o Claudio Pragliola  
Dept of Cardiovascular Sciences Unit of Cardiac Surgery  
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Italy  
00168

**Sponsor type**

University/education

**Website**

<http://www.rm.unicatt.it>

**ROR**

<https://ror.org/03h7r5v07>

**Funder(s)****Funder type**

University/education

**Funder Name**

Catholic University of the Sacred Heart (Italy)

**Results and Publications****Publication and dissemination plan**

Not provided at time of registration

**Intention to publish date****Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration