Can dipyridamole induce protection against ischemia and reperfusion injury in patients undergoing elective CABG?

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Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Coronary artery disorders
Study type	Interventional

Summary

ID

NL-OMON33210

Source
ToetsingOnline

Brief title
CABG

Condition

- Coronary artery disorders

Synonym
heart attack, ischemia reperfusion injury

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Sint Radboud
Source(s) of monetary or material Support: Ministerie van OC&W,ZonMW

Intervention

Keyword: CABG, dipyridamole, ischemia-reperfusion injury, preconditioning

Outcome measures

Primary outcome

Troponin-I levels measured before and 6,12,24,48, and 72 hours after CABG.

Secondary outcome

Incidence of arrhythmias, need for prolonged inotropic support (longer than 24 hours postoperative), prolonged ICU stay (longer than 24 hours). Biomarkers in renal injury (serum creatinine, KIM-1 and SELDI-TOF analysis of urinary samples).

Post-ischemic recovery of contractile function in our atrial trabeculae model.

Study description

Background summary

Due to western lifestyle human coronary arteries are prone to develop atherosclerotic plaques. Hence the heart is an important target organ for atherothrombotic complications: myocardial ischemia, arrhythmias, myocardial infarction and heart failure. To alleviate symptoms and decrease mortality in these patients, myocardial revascularisation is recommended. Coronary bypass surgery (CABG) is indicated In patients with severe atherosclerotic disease of all three coronary arteries or the left main stem coronary artery. Cardiac ischemia and reperfusion injury during CABG is inevitable and jointly accountable for complications that occur after CABG (e.g. death, myocardial infarction, arrhythmias, stroke, or renal complications). Dipyridamole has been shown to reduce ischemia reperfusion injury in healthy volunteers using an intermediate endpoint and may prevent cardiovascular death or event in secondary prevention after TIA or CVA. We hypothesise that oral pre-treatment with dipyridamole can increase cardiac tissue tolerance against ischemia and reperfusion injury due to CABG. We expect lower troponin-I release in patients who were pretreated with dipyridamole.

Study objective

To study the effect of oral pretreatment with dipyridamole on troponin-I release after CABG. Secondary objectives are whether oral pretreatment with dipyridamole reduces postoperative CABG arrhythmias, prolonged inotropic support, and duration of ICU-stay. Further secondary endpoints are the effects of dipyridamole pretreatment on renal injury and post-ischemic recovery of contractile function (measured ex-vivo).

Study design

Randomised double blind, placebo controlled clinical trial.

Intervention

pretreatment with dipyridamole (Persantin Retard) 2dd 200mg or placebo

Study burden and risks

This study will be executed at the Radboud University Nijmegen Medical Centre under close medical supervision. Treatment with dipyridamole or placebo is not expected to harm the participants. Dipyridamole may marginally increase the risk of bleeding complications.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

- Acceptation for CABG in RUNMC
- Informed consent

Exclusion criteria

- Recent myocardial infarction (STEMI or non-STEMI), during two weeks prior to inclusion
- Asthma
- Use of insulin
- Use of sulfonylurea derivates (e.g. glibenclamide, tolbutamide, gliclazide, glimepiride)
- Use of metformin
- Use of oral corticosteroids
- Use of dipyridamole
- Use of clopidogrel within 8 days prior to scheduled CABG surgery
- Chronic use of Non Steroid Anti-Inflammatory Drugs (NSAIDs)

Study design

Design

Study phase:	4
Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)

Control:	Placebo
Primary purpose:	Prevention

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	02-01-2010
Enrollment:	130
Type:	Actual

Medical products/devices used

Registration:	No
Product type:	Medicine
Brand name:	persantin
Generic name:	dipyridamole
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	10-08-2009
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	29-10-2009
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	13-12-2011
Application type:	Amendment
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	15-12-2011
Application type:	Amendment
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
EudraCT	EUCTR2009-014299-22-NL
CCMO	NL28900.091.09