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Post-treatment PLATelet aggregation-guided therapy FOR ST-segment elevation Myocardial infarction

Submission date	Recruitment status	[X] Prospectively registered
23/03/2012	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
22/05/2012	Completed	[_] Results
Last Edited	**Condition category**	[_] Individual participant data
22/05/2017	Circulatory System	[_] Record updated in last year

Plain English summary of protocol

Background and study aims
After a myocardial infarction (heart attack), patients sometimes need a stent placed in their heart, which is a tube shaped device placed in the coronary arteries to keep them open. Sustained enhancement of post-treatment platelet aggregation (PPA) has been documented after coronary stenting in patients with acute ST elevation myocardial infarction (STEMI). Therefore, adequate platelet inhibition (medications that stops platelet growth in order to prevent blood clots) with dual antiplatelet therapy is important after primary percutaneous coronary intervention (pPCI) (also known as an angioplasty, a procedure used to treat narrowed arteries) aimed at protecting against stent thrombosis (blood clots in a vessel) and increased mortality (death). However, recent studies have shown that up to one third of patients are low responders (LRs) to clopidogrel (a common medication used). Moreover, many studies have suggested a relation between a high post-loading platelet aggregation (PPA) and increased rate of ischemic events including stent thrombosis. Based on this data, intensified antiplatelet strategy has been advocated to overcome high PPA after primary or elective coronary intervention. The aim of this study is to compare the effects of standard dual antiplatelet regimen with an individual PPA-guided tailoring of antiplatelet therapy in patients with intermediate to high risk for 30-day MACE after pPCI.

Who can participate?
Adults who are at risk for cardiac events

What does the study involve?
Participants are randomly allocated to one of two groups. Those in the first group receive the standard treatment which includes 100 mg aspirin and 75 mg clopidogrel without the assessment of PPA. Those in the second group are assessed for PPA. Participants are tested to for ASPI test for bleed risks and ADP tests.

What are the possible benefits and risks of participating?
Not provided at time of registration.

Where is the study run from?
University Clinical Center of Serbia Department of Emergency Cardiology (Serbia

When is the study starting and how long is it expected to run for?
June 2012 to June 2014

Who is funding the study?
Clinical Center of Serbia (Serbia)

Who is the main contact?
Igor Mrdovic, MD, Ph.D
igormrd@gmail.com

Contact information

Type(s)
Scientific

Contact name
Prof Igor Mrdovic

Contact details
Clinical Center of Serbia
Pasterova 2
Belgrade
Serbia
11000
+38 11 1366 2364
igormrd@gmail.com

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
553/12

Study information

Scientific Title
Post-treatment PLATelet aggregation-guided therapy FOR ST-segment elevation Myocardial infarction: a randomized trial

Acronym
PLATFORM

Study objectives
Antiplatelet regimen tailoring is superior to standard antiplatelet regimen in intermediate to high-risk ST-segment elevation myocardial infarction (STEMI) patients treated with primary percutaneous coronary intervention (PCI), with regard to the primary end point.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics Committee, Clinical Center of Serbia, 02/06/2009, ref: 553/12

Study design
Prospective open-label observer-blinded randomized parallel-group actively controlled single-center clinical trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

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
Acute myocardial infaction with ST elevation

Interventions
Before pPCI, 300 mg aspirin and 600 mg clopidogrel loading doses will be administered. Unfractionated heparin is started as 100 IU/kg bolus (60 IU/kg if glycoprotein (GP) IIb/IIIa receptor inhibitor was used); the 12 IU/kg/h infusion followed if clinically indicated (atrial fibrillation, left ventricular (LV) thrombus or aneurysm, recent or recurrent venous thromboembolism, deferred sheath removal). Proton-pump inhibitor pantoprazole or H2-blocker ranitidine will be given to selected patients at risk for gastrointestinal hemorrhage. GP IIb/IIIa receptor inhibitor tirofiban will be administered during the procedure at the discretion of the operator.

Patients will be randomly allocated to ART (interventional arm) or standard treatment (control arm) using a computer-generated 1:1 simple randomization scheme. Post-treatment platelet aggregation (PPA) will be assessed in patients enrolled in the intervention arm of the trial. Patients enrolled in the control arm will receive standard antiplatelet regimen including 100 mg aspirin and 75 mg clopidogrel without assessment of PPA. The treating physicians will not be blinded to the intervention since an open design will make it possible for investigators to perform necessary adjustments of the antiplatelet regimen in accordance with PPA status. To

minimize any possible bias inherent in the open design, endpoints will be evaluated by a blinded endpoint committee (Probe design). This will limit investigator bias and allow for a valid analysis despite the open design.

ASPI and ADP tests will be used to analyze the effect of aspirin, clopidogrel and ticagrelor on PPA in the interventional arm. PPA above 50%, compared to the basal value estimated by thrombin-receptor agonist peptide (TRAP) test, will be linked with low responsiveness. Low responders to aspirin will receive 200 mg aspirin daily for 30 days. Low responders to clopidogrel will receive 180 mg ticagrelor daily for 1 year.

Intervention Type
Other

Phase
Not Applicable

Primary outcome measure
The time to the first of composite events including death, nonfatal infarction, stroke or definite subacute stent thrombosis. Major safety end points includeTIMI major bleeding unrelated to coronary artery bypass graft surgery. Patients will be followed-up after discharge from hospital at 30 days and 1 year after enrolment.

Secondary outcome measures
1. Individual components of MACE
2. Total bleeding and the need for blood transfusions

Patients will be followed-up after discharge from hospital at 30 days and 1 year after enrolment.

Overall study start date
01/06/2012

Completion date
01/06/2014

Eligibility

Key inclusion criteria
1. Patients with intermediate to high risk for 30-day Major Adverse Cardiac Events (MACE) (RISK-PCI score >3) undergoing primary PCI with stent implantation within 12 hours of the onset of symptoms
2. Ability to comply with study protocol
3. Negative test for pregnancy for women of childbearing potential before enrollment and agreement to use a reliable method of birth control during the study

Participant type(s)
Patient

Age group
Adult

Sex
Both

Target number of participants
632

Key exclusion criteria
Pre-procedural:
1. Any history of hemorrhagic stroke
2. Ischemic stroke within 30 days of randomization
3. Evidence of active abnormal bleeding within 3 months of randomization
4. High risk for bleeding on long-term clopidogrel therapy
5. Current therapy with coumadin anticoagulation
6. Pregnancy or nursing
7. Current enrollment in another investigational drug or device study

Procedural:
1. Balloon angioplasty without stent placement
2. Unsuccessful pPCI (post-procedural TIMI flow 0)

Post-procedural:
1. Died within 24 hours after loading dose
2. Active internal bleeding
3. Hemoglobin < 10 g/dL or drop in hemoglobin by ≥3 g/dL
4. Platelet count < 100 000 x 10-9/L.
5. Thrombin Receptor Activating Peptide (TRAP) value <500 AU
6. Indication for permanent anticoagulant therapy

Date of first enrolment
01/06/2012

Date of final enrolment
01/06/2014

Locations

Countries of recruitment
Serbia

Study participating centre
Clinical Center of Serbia
Belgrade
Serbia
11000

Sponsor information

Organisation
Clinical Center of Serbia (Serbia)

Sponsor details
Pasterova 2
Belgrade
Serbia
11000
+38 11 1361 7777
mediacentar@klinicki-centar.co.rs

Sponsor type
Hospital/treatment centre

Website
http://www.ksc.ac.rs

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Clinical Center of Serbia (Serbia)

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

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article	protocol	01/06/2013		Yes	No