Atrial specific potassium channels as new drug targets in atrial fibrillation

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Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Cardiac arrhythmias
Study type	Observational non invasive

Summary

ID

NL-OMON29754

Source
ToetsingOnline

Brief title
blockers of IKAch and IK,Ca

Condition

- Cardiac arrhythmias

Synonym
atrial fibrillation

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit Maastricht
Source(s) of monetary or material Support: Nederlandse Hartstichting

Intervention

Keyword: atrium, cardioversion, fibrillation, ion channels

Outcome measures

Primary outcome

Contractile forces and action potentials will be measured in human atrial

muscle bundles. In addition, contraction, electrophysiological properties and

changes in the intracellular calcium concentration will be measured in isolated

cardiomyocytes.

Secondary outcome

not applicable

Study description

Background summary

Atrial fibrillation is the most common chronic arrhythmia afflicting 6% of the population over the age of 60 years. With aging of our society, the prevalence will even increase in the future. The socio-economic consequences of the increasing incidence of the arrhythmia are manifold. AF is the most important risk factor for stroke, it increases mortality and morbidity of patients with cardiovascular diseases and strongly impairs quality of life. Restoration of sinus rhythm is a primary goal in AF management but not often can be achieved with commonly
used antiarrhythmic drugs. Even if cardioversion was successful sinus rhythm can only be maintained in a minority of the patients because of limited efficacy and safety of the pharmacological compounds. Also, prevention of thromboembolic events still requires potentially harmful anticoagulation therapy. Besides the development of means to prevent structural remodeling of the atria there is great need for new pharmaceutical agents which more effectively and safely can prolong atrial refractoriness and restore atrial contraction in order to improve quality of life of AF patients and to reduce the costs caused by acute therapy, secondary prevention and chronic treatment of disabilities due to AF.

Study objective

The aim of the proposed study is to evaluate atrial-specific K+-channels as new drug targets for the management of AF. Blockers of atrial specific K+-channels prolong repolarisation exclusively in the atria without proarrhythmic side-effects on the ventricle and therefore might be of importance for the management of AF patients.

Study design

Right atrial tissue will be obtained from patients undergoing coronary artery bypass surgery or mitral valve surgery. As a routine procedure the tip of the right atrial appendage is excised when the venous cannula for the extra-corporeal circulation is inserted in the right atrium.

In addition, we will work with an animal model. In our group, we have developed a model of chronically instrumented goats in which we can maintain AF in a controlled manner. The advantage of this model is the absence of underlying cardiovascular diseases that may contribute to the development or maintenance of AF. Tissue from these goats will be studied after 1 week and 3 months of AF.

Study burden and risks

not applicable

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

nvt

Exclusion criteria

nvt

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-01-2007
Enrollment:	50
Type:	Actual

Medical products/devices used

Registration:	No

Ethics review

Approved WMO Date:	18-08-2006
Application type:	First submission
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)

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
CCMO	NL12201.068.06