Monosodium glutamate as a potential trigger for atrial fibrillation

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To demonstrate the arrhythmogenic action of MSG in a single blinded placebo controlled test on these patients with reported MSG induced AF and to investigate the possibility of MSG as a potential trigger for AF.

Ethical review	Approved WMO
Status	Pending
Health condition type	Cardiac arrhythmias
Study type	Observational invasive

Summary

ID

NL-OMON34775

Source
ToetsingOnline

Brief title
TASTE AF

Condition

- Cardiac arrhythmias

Synonym
AF, atrialfibrillation

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Arrhythmia, Atrial fibrillation, E621, Monosodiumglutamate

Outcome measures

Primary outcome

The primary endpoint of this study will be AF, confirmed by Holter or 12-lead

ECG.

Secondary outcome

Secondary endpoints are two or more symptoms of the MSG symptom complex.

Study description

Background summary

There is anecdotal evidence of patients with atrial fibrillation triggered by ingestion of monosodiumglutamate (MSG), also known as Ve-Tsin or E621. Glutamate is the principal excitatory neurotransmitter in the brain but receptors have been found on the myocardium and cardiac nerve tissue. Our hypothesis is that glutamate has an arrhythmogenic potential and can induce atrial fibrillation (AF).

Study objective

To demonstrate the arrhythmogenic action of MSG in a single blinded placebo controlled test on these patients with reported MSG induced AF and to investigate the possibility of MSG as a potential trigger for AF.

Study design

Single blind placebo study.

Study burden and risks

Patients will be required to be admitted three times for a period of two hours with an interval of one week after each admission. Patients can experience discomforting symptoms provoked by AF after ingestion of MSG orally. During admission blood samples will be taken at regular intervals to measure glutamate

blood levels. After admission patients undergo Holter monitoring for 24h. During the study the patients are required to maintain a MSG-free diet. If a relationship between MSG ingestion and AF occurence is established these patients can benefit from this study by adhering to the MSG-free diet. Furthermore if this study suggests a relationship other patients with AF can be informed of the effects of this potential arrhythmogenic food additive.

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

Reported monosodiumglutamate triggered atrial fibrillation
Age is between 18 and 80 years
AF is symptomatic and paroxysmal
AF was documented on ECG, Holter or pacemaker electrogram at least once in the 6 months

preceding presentation
In sinus rhythm at the moment of study inclusion
Legally competent and willing and able to sign informed consent
Willing and able to adhere to the follow up visit protocol

Exclusion criteria

Myocardial infarction (defined as CKMB> twice upper limit of normal) within the preceding 2 months
NYHA class IV/IV heart failure symptoms, or class II-III with a recent decompensation requiring hospitalization (unless related to or aggravated by AF)
Cerebrovascular accident (defined as any sudden neurological deficit lasting longer than 24 hours, with or without pathological changes on the CT cerebrum) with the preceding 6 months
Known and documented carotid stenosis>80%
Pregnancy or of childbearing potential without adequate contraception
Requirement of antiarrhythmic medication for ventricular arrhythmias
Left ventricular ejection fraction<30%
Severely enlarged left atrium: left atrial volume index>40 ml/m2 or left atrial diameter>52 mm
History of previous radiation therapy on the thorax
Circumstances that prevent follow-up (no permanent home or address, transient, etc.)

Study design

Design

Study type:	Observational invasive
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Single blinded (masking used)
Control:	Placebo
Primary purpose:	Diagnostic

Recruitment

NL
Recruitment status:	Pending
Start date (anticipated):	16-10-2012

Enrollment:	25
Type:	Anticipated

Ethics review

Approved WMO Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL31448.018.10