Cross-sectional cohort analysis of the relation between diastolic function and skin-autofluorescence, a measurement of tissue accumulation of advanced glycation end-products.

Published: 17-12-2008 Last updated: 06-05-2024

Aim is to establish the relation between skin AGEs, measured as skin-autofluorescence, and diastolic dysfunction. Primary Research Questions1. Is there a relation between skin-autofluorescence and the severity of diastolic dysfunction in patients...

Ethical review	Approved WMO	
Status	Recruitment stopped	
Health condition type	Heart failures	
Study type	Observational non invasive	

Summary

ID

NL-OMON32573

Source ToetsingOnline

Brief title Skin-AF and diastolic function

Condition

• Heart failures

Synonym Diastolic heart failure, hartfalen

Research involving

Human

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Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen **Source(s) of monetary or material Support:** afdelingsbudget

Intervention

Keyword: Advanced Glycation End-products, Diastolic function, Skin autofluorescense

Outcome measures

Primary outcome

Skin-autofluorescence

Diastolic function

Secondary outcome

Dabetes mellitus

NYHA-functional class

Renal dysfunction

Study description

Background summary

Approximately 40-70% of patients with heart failure have diastolic dysfunction with preserved systolic function. The pathophysiology of diastolic dysfunction is only partly known. Advanced glycation end-products (AGEs) are carbohydrate and lipid dependent modifications of protein, formed by oxidative or non-oxidative reactions. These modifications affect the physiological properties of proteins in the extracellular matrix, such as charge, hydrophobicity, turnover and elasticity. We hypothesise that accumulation of AGEs is involved in the development of diastolic dysfunction.

Study objective

Aim is to establish the relation between skin AGEs, measured as skin-autofluorescence, and diastolic dysfunction.

Primary Research Questions

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1. Is there a relation between skin-autofluorescence and the severity of diastolic dysfunction in patients undergoing routine echocardiography for diastolic function?

Secondary Research Questions

1. Is there a relation between skin-autofluorescence, diastolic function, and the presence of diabetes mellitus?

2. Is there a relation between skin-autofluorescence, diastolic function, and NYHA function class?

3. Is there a relation between skin-autofluorescence, diastolic function, and the presence of renal dysfunction?

Study design

This is a cross-sectional study in patients visiting our clinic for routine echocardiografic examination. During the echocardiogram, AGE's in the skin will assessed by measuring the skin-autofluorescence. Also, a few questions concerning the clinical condition of the patient will be asked. Additional parameters, including the presence of diabetes mellitus or renal dysfunction, will be collected from the medical records of the patients. Along with the results from the echocardiografic examination, these will be used to study the relationship between acummulation of AGEs and diastolic dysfunction.

Study burden and risks

Burden and risks associated with participation are minimal. Participation costs approximately 5 minutes, and measuring skin-autofluorescence is not associated with any risks.

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

Signed Informed consent Age > 18 years

Exclusion criteria

atrial fibrillation at time of echocardiography

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):	15-09-2008
Enrollment:	200

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Type:

Anticipated

Ethics reviewApproved WMO
Application type:First submissionReview commission:METC Universitair Medisch Centrum Groningen (Groningen)

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 CCMO ID NL24753.042.08