Urine acidification in men

Published: 01-09-2016
Last updated: 16-04-2024

to determine if there is an alternative mechanism for urine acidification in men in response to furosemide other than that through ENaC

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Nephropathies
Study type	Observational invasive

Summary

ID

NL-OMON42942

Source
ToetsingOnline

Brief title
Urine acidification in men

Condition

- Nephropathies

Synonym
renal tubular disorders

Research involving
Human

Sponsors and support

Primary sponsor: Radboud Universiteit Nijmegen
Source(s) of monetary or material Support: subsidie college zorgverzekeringen

Intervention

Keyword: furosemide fludrocortison test, NHE3, Urine acidification

Outcome measures

Primary outcome

urine pH in response to furosemide and fludrocortison with and without

amiloride

Secondary outcome

none

Study description

Background summary

Distal renal tubular acidosis is often diagnosed using NH4Cl loading. More recently this test has been replaced by the furosemide fludrocortison test (FF test). The FF test is based on the classical mechanism that furosemide induces distal tubular sodium delivery and fludrocortison further enhances sodium re-absorption through ENaC and secondly H+ secretion through H+-ATPase/H+-K+-ATPase in the collecting duct. In mice however, furosemide can also acidify urine by stimulating the Na+-H+ transporter NHE3 and hereby Na+ reabsorption and H+ excretion. If such a mechanism is present in men as well, the FF test could result in normal urinary acidification in patients with dRTA.

Study objective

to determine if there is an alternative mechanism for urine acidification in men in response to furosemide other than that through ENaC

Study design

an intervention study in which 10 healthy volunteers will undergo two furosemide fludrocortison tests on separate days: one without and the other after pre-treatment with the ENaC blocker amiloride (10 mg) which is given 2 hours before the start of the test.

Study burden and risks

The total number of blood samples is 3 per test. The total number of urine samples is 5 per test. The risks of the study are negligible.

Contacts

Public
Radboud Universiteit Nijmegen

Geert Grooteplein Zuid 8 Geert Grooteplein Zuid 8
6500 HB Nijmegen 6500 HB
NL
Scientific
Radboud Universiteit Nijmegen

Geert Grooteplein Zuid 8 Geert Grooteplein Zuid 8
6500 HB Nijmegen 6500 HB
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

age * 18 years old

Exclusion criteria

any medical history
inability to give informed consent
pregnancy
medication use (except for oral anti contraceptives)

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	13-09-2016
Enrollment:	10
Type:	Actual

Ethics review

Approved WMO

Date:	01-09-2016
Application type:	First submission
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
CCMO	NL57365.091.16