Differences in antihypertensive drug levels in patients with hypertension: old vs young - 2

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Ethical review	Approved WMO
Status	Recruiting
Health condition type	Vascular hypertensive disorders
Study type	Interventional

Summary

ID

NL-OMON52352

Source
ToetsingOnline

Brief title
DECISION-2

Condition

- Vascular hypertensive disorders

Synonym
High blood pressure

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Elderly, Hypertension, Pharmacodynamics, Pharmacokinetics

Outcome measures

Primary outcome

Our primary objective is to determine if there is a difference in exposure to losartan and perindopril measured with the (AUC) when comparing elderly (>70 years) with younger patients (<50 years).

Secondary outcome

We want to determine if there is a difference in the drop of blood pressure between older (>70 years) and younger (<50 years) patients; and if so, can this difference be explained by a difference in the plasma concentration of the drug. Furthermore, we want to investigate wat the influence is of the AUC on RAAS-activity during the use of perindopril or losartan. Lastly, we want to investigate if more parameters, besides age, are of influence on the AUC that can explain the possible difference.

Study description

Background summary

Elderly patients differ from younger patient regarding pharmacokinetics (PK) and pharmacodynamics (PD). Practically this means that, not only plasma concentrations after drug intake (PK), but also the effect of the drug can be different (PD). When treating hypertension, it is assumed that elderly patients have higher plasma concentrations after intake of the same drug dose than younger patients. This increase in plasma concentration can lead to adverse events which could result in non-adherence and consequently suboptimal blood pressure treatment which leads to increased mortality and morbidity rates. However, strong evidence to support this conclusion is missing as elderly were often left out large trials that investigated these antihypertensive drugs.

Furthermore, only little is known about PD changes during ageing; thus more data on the relation between PK and PD in the elderly are needed.

Study objective

In this study we want to investigate if there is a difference in exposure to losartan and perindopril between younger and elderly patients. Furthermore, the results will enable us to correlate detailed PK data with PD data, which can lead to a more rational dose advice with regard to perindopril and losartan especially for the elderly patient. These results are needed to start a large trial to investigate the long term effects of low dose antihypertensive drug use in elderly

Study design

This is prospective observational study comparing PK/PD from elderly and younger patients that start with the use of perindopril or losartan. Total duration of the study can take place within 2 weeks. In the follow-up of four weeks after the last measurement AEs and SAEs reported by the patient of physician are collected.

Intervention

Perindopril or losartan use is stopped for 2 weeks to measure baseline blood pressure without medication. With this the effect of de blood lowering drugs is measured in a real-life population. Both drugs are restarted after 2 weeks, unless the treating physiciian decides otherwise.

Study burden and risks

The risk of this study is moderate. However, the visits to the hospital, amount of finger pricks and 24-h ABPMs can be seen as a burden. This is explained to the patient before starting the study. Furthermore, losartan and perindopril is stopped for at least two weeks, as is usual in clinical practice, to measure blood pressure without the effect of perindopril or losartan. There is a small chance of adverse events, but patients are informed about this and are asked to report this to their treating physician or researchers. Also, the treating physician will monitor these patients closely.

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

- Use of oral perindopril 2, 4 or 8 mg a day or losartan 25, 50 or 100 mg a day or in case of healthy controls willingness to use perindopril 4 mg or losartan 50 mg for five days
- Age between 18-50 years or > 70 years
- Providing informed consent after reading the patient information
- Stopping is in accordance with the treating physician

Exclusion criteria

• Not providing informed consent or not capable of giving informed consent, • End-stage renal disease (eGFR<15 ml/min) • Use of other antihypertensive drugs prescribed that are of influence on the RAAS system incuding diuretics, beta blockers and other RAAS-inhibitors.

Study design

Design

Study type: Interventional

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	02-02-2021
Enrollment:	80
Type:	Actual

Ethics review

Approved WMO Date:	26-10-2020
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	09-12-2020
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	11-11-2022
Application type:	Amendment
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	11-01-2023
Application type:	Amendment

Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

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
EudraCT	EUCTR2020-003647-28-NL
CCMO	NL74782.078.20