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Reversibility of impaired cerebrovascular reactivity in patients with hypertension: comparison of losartan and atenolol

Submission date 08/09/2005	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [_] Record updated in last year
Registration date 27/10/2005	**Overall study status** Completed	
Last Edited 11/10/2016	**Condition category** Circulatory System	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title

Reversibility of impaired cerebrovascular reactivity in patients with hypertension: comparison of losartan and atenolol

Study objectives
To investigate the effect of both losartan and atenolol upon impaired cerebrovascular reactivity in hypertension.

Ethics approval required
Old ethics approval format

Ethics approval(s)
West Ethics Committee of NHS Greater Glasgow and Clyde, 18/12/2003, ref: 03/118 (1)

Study design
Randomised controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Hypertension

Interventions
Patients will undergo baseline assessment of cerebrovascular reactivity. Mean flow velocity (MFV) in the middle cerebral artery (MCA) will be measured using transcranial Doppler. Each subject will then receive an intravenous infusion of acetazolamide after which MFV will be measured. MFV in the internal carotid artery and peripheral arterial stiffness using Sphygmocor will also be assessed pre- and post-infusion. Patients then receive a supply of either losartan and atenolol tablets for 4 weeks after which they will undergo cardiovascular reactivity (CVR) assessment as before. A 1-week washout period of no medication will follow, then the protocol repeated with the alternated tablet.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Losartan, atenolol

Primary outcome(s)
Changes in cerebrovascular reactivity.

Key secondary outcome(s))
Not provided at time of registration

Completion date

01/02/2006

Eligibility

Key inclusion criteria
1. Male: 50-80 years
2. Electrocardiogram (ECG) evidence of left ventricular hypertrophy (LVH)
3. Blood pressure (BP) 150-200/90-115

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
Male

Key exclusion criteria
1. >70% internal carotid artery (ICA) stenosis
2. Middle cerebral artery (MCA) stenosis
3. Contra-indication to losartan, atenolol or acetazolamide
4. Serum creatinine >130 µmol/l
5. Prior treatment with angiotensin converting enzyme (ACE)-1/angiotensin II receptor blocker (ARB)/beta blocker unless able to stop 4 weeks prior to recruitment

Date of first enrolment
01/08/2004

Date of final enrolment
01/02/2006

Locations

Countries of recruitment
United Kingdom

Scotland

Study participating centre
Western Infirmary
Glasgow
United Kingdom
G11 6NT

Sponsor information

Organisation
University of Glasgow (UK)

ROR
https://ror.org/00vtgdb53

Funder(s)

Funder type
University/education

Funder Name
University of Glasgow

Alternative Name(s)

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes