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Effect of beta blockers on haemodynamics and brain natriuretic peptide (BNP)

Submission date 12/09/2003	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [_] Record updated in last year
Registration date 12/09/2003	**Overall study status** Completed	
Last Edited 08/09/2008	**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
N0544112292

Study information

Scientific Title

Study objectives
Do different beta blockers have variant effects on arterial stiffness and central blood pressure?

Ethics approval required
Old ethics approval format

Ethics approval(s)
Not provided at time of registration

Primary study design
Interventional

Study design
Randomised controlled trial

Study type(s)
Not Specified

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

Interventions
The aim of the study is to test the effects of Atenolol, Pindolol and Nebivolol on central blood pressure and augmentation index. Studies of normotensive and hypertensive individuals have confirmed that pulse pressure is a better predictor of cardiovascular events than mean pressure in older adults.
There is evidence that the traditional beta blocker Atenolol is less effective in reducing strokes and also lowering central blood pressure and augmentation index. This may be due to a direct arterial stiffening effect but also partly due to a fall in heart rate. However, Nebivolol is much more beta 1 selective than Atenolol and also causes vasodilatation by releasing NO which may in turn have additional benefits with regard to augmentation index and central blood pressure.

At visit 1 there will be a physical examination, blood pressure measurements, blood tests and measurements of arterial stiffness using a small sensor placed in turn against the skin on the arm and neck. The patients will be asked about their general medical history to ensure that it is safe for them to take part in the study.

Patients will be randomised prior to commencement. Patients will them be given a single dose of either Atenolol 50 mg, Nebivolol 5 mg, Pindolol 5 mg, a placebo. Repeat measurements will be taken after 1, 2 and 4 h.

Patients will return 1 week later for visit 2 when repeat measurements as for visit 1 will be performed and different medication given. As at visit 1 measurements will be taken after 1, 2 and 4 h.

Patients will then be asked to return for visits 3 and 4 after an interval of 1 week between each visit. All measurements as for visit 1 and 2 will be repeated and randomised medication given.

Each visit will last for approximately 5 h.

Intervention Type

Other

Phase
Not Specified

Primary outcome(s)
Not provided at time of registration

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

Completion date
13/05/2005

Eligibility

Key inclusion criteria
20 subjects in the age range of 18-55 years.

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Upper age limit
55 Years

Sex
Not Specified

Key exclusion criteria
Not provided at time of registration

Date of first enrolment
14/05/2002

Date of final enrolment
13/05/2005

Locations

Countries of recruitment

United Kingdom

England

Study participating centre
Clinical Pharmacology Unit
Cambridge
United Kingdom
CB2 2QQ

Sponsor information

Organisation
Department of Health (UK)

Funder(s)

Funder type
Government

Funder Name
Cambridge Consortium - Addenbrooke's (UK)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration