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A double-blind randomised multi-centre, placebo-controlled trial of combined angiotensin converting enzyme-inhibitor and beta-blocker therapy in preventing the development of cardiomyopathy in genetically characterised males with Duchenne Muscular Dystrophy without echo-detectable left ventricular dysfunction

Submission date
12/06/2007

Registration date
13/08/2007

Last Edited
31/12/2020

Recruitment status
No longer recruiting

Overall study status
Completed

Condition category
Nervous System Diseases

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)

2007-005932-10

Protocol serial number
1.1

Study information

Scientific Title
A double-blind randomised multi-centre, placebo-controlled trial of combined angiotensin converting enzyme-inhibitor and beta-blocker therapy in preventing the development of cardiomyopathy in genetically characterised males with Duchenne Muscular Dystrophy without echo-detectable left ventricular dysfunction

Acronym
DMD Heart

Study objectives
To determine whether the introduction of Angiotensin Converting Enzyme-inhibitor (ACE-inhibitor) (perindopril) combined with beta-blocker therapy (bisoprolol), before the onset of echo-detectable left ventricular dysfunction, can delay the age of onset and/or slow the rate of progression of cardiomyopathy in males with Duchenne Muscular Dystrophy (DMD).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics pending as of 12/06/2007. No patients will be recruited before ethics approval has been received.

Study design
Double-blind randomised multi-centre placebo-controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Duchenne muscular dystrophy

Interventions
Presentation of Investigational Medicinal Product (IMP):
Each participant will receive:
1. A one-month supply of perindopril 2 mg/bisoprolol 1.25 mg or placebo for the run-in period
2. Six-monthly supplies of perindopril 4 mg/bisoprolol 2.5 mg or placebo for the remainder of the trial

Introduction of IMP or placebo therapies:
The IMP or placebo therapy will be introduced in the following stepwise manner:

Step 1: combined capsule containing perindopril 2 mg/bisoprolol 1.25 mg or matching placebo to be administered by parent(s)/legal guardian(s) at bedtime
Step 2 (one month later): change to maintenance capsule containing perindopril 4 mg/bisoprolol 2.5 mg or matching placebo to be administered by parent(s)/legal guardian(s)at bedtime

Treatment period is for two years. Follow up is for up to 60 months.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Perindopril, bisoprolol

Primary outcome(s)
Change in left ventricular ejection fraction by Simpson's biplane disk method, compared to baseline, after a minimum of two years of combination therapy or placebo. To assess robustness of ejection fraction result, similar comparisons will be made for parameters of left ventricular end-systolic volume and wall motion index.

Key secondary outcome(s))
1. Death from any cause
2. Development of symptoms and signs of congestive cardiac failure
3. Sufficient objective deterioration in cardiac function, without symptoms to make continued placebo therapy unethical

Secondary outcomes are measured at baseline and 6, 12, 18, 24, 30, 36, 42, 48, 54 and 60 months.

Completion date
30/03/2019

Eligibility

Key inclusion criteria
1. Boys aged 7 to 12 years
2. Genetically confirmed DMD with normal left ventricular function on trans-thoracic echocardiography (i.e., left ventricular ejection fraction by Simpson's biplane method greater than 55% [normal mean + SD = 63 + 5%], no global or regional wall motion abnormalities)

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Child

Lower age limit
7 years

Upper age limit
12 years

Sex
Male

Key exclusion criteria
1. Contraindication to ACE-inhibitor or beta-blocker therapy
2. Patients, whose initial echo is of insufficient quality to allow reliable measurements of ejection fraction or wall motion
3. Patients with abnormal echocardiograms at baseline
4. Patients with abnormal renal function (creatinine greater than upper limit of local laboratory range; typically greater than 120 mmol/l) or consistently abnormally high serum potassium level (K greater than upper limit of local laboratory range; typically 5 mmol/l)

Date of first enrolment
01/09/2007

Date of final enrolment
30/03/2018

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Freeman Hospital
Newcastle upon Tyne
United Kingdom
NE7 7DN

Sponsor information

Organisation
Newcastle upon Tyne Hospitals NHS Foundation Trust (UK)

ROR
https://ror.org/05p40t847

Funder(s)

Funder type
Charity

Funder Name
British Heart Foundation (UK)

Alternative Name(s)
The British Heart Foundation, the_bhf, BHF

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

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?
Protocol article	protocol	19/12/2018	31/12/2020	Yes	No
Basic results				No	No