

Genetically determined brain abnormalities in Down's syndrome - towards a treatment: Down's syndrome Lithium Trial

Submission date 28/05/2009	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 19/08/2009	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
Last Edited 20/05/2019	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

Contact name
Prof Declan Murphy

Contact details
Professor of Psychiatry and Brain Maturation
Institute of Psychiatry
Section of Brain Maturation, PO50
De Crespigny Park
London
United Kingdom
SE5 8AF

Additional identifiers

Clinical Trials Information System (CTIS)
2008-008342-20

Protocol serial number
Sponsor ID: RAA08-015; EudraCT number:

Study information

Scientific Title

Genetically determined brain abnormalities in Down's syndrome - towards a treatment: a randomised, single-blind, placebo-controlled trial of lithium carbonate in Down's syndrome

Acronym

DOWNSLIT

Study objectives

That brain myo-inositol levels in non-demented Down's syndrome individuals can be reduced by a 4-week trial of lithium carbonate at therapeutic doses.

Ethics approval required

Old ethics approval format

Ethics approval(s)

South East Research Ethics Committee, 23/02/2009, ref: 09/H1102/3

Study design

Single-centre randomised single-blind placebo-controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Down's syndrome

Interventions

Lithium carbonate (Camcolit®), 250 mg oral tablets versus placebo.

Titration phase: dose adjusted to achieve therapeutic plasma level of 0.4-1.0 mmol/l

Maintenance phase: twice daily dosing for 4 weeks on therapeutic lithium carbonate dose

Titration phase: dose adjusted to achieve therapeutic plasma level of 0.4-1.0mmol/L

Maintenance phase: twice daily dosing for 4 weeks on therapeutic lithium carbonate dose

Total duration of treatment is around 8 weeks; follow-up will be as appropriate if patients have any side-effects on lithium, otherwise patient involvement ends when they come off the medication. Likewise for placebo group.

Intervention Type

Drug

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Lithium carbonate (Camcolit®)

Primary outcome(s)

Brain myo-inositol concentrations (dorsolateral prefrontal cortex [DLPFC] and hippocampus) measured by ¹H magnetic resonance spectroscopy (MRS) at baseline and after 4 weeks maintenance lithium treatment at therapeutic dose.

Key secondary outcome(s)

1. Blood biomarkers which have been implicated in the development of Alzheimer's disease:
 - 1.1. Isolation of genomic DNA for studies of genotype in relation to response including the Tau haplotype, Intron 7 repeat of APP, and ApoE4
 - 1.2. Abeta1-40, Abeta1-42 base fragments and other amyloid species
 - 1.3. Markers of amyloid oxidative stress e.g. isoprostane and other members
 - 1.4. Markers of systemic inflammation e.g. IL-6, TNF-alpha and other inflammatory markers
 - 1.5. Other markers of APP processing e.g. BACE
2. Cognitive measures:
 - 2.1. British Picture Vocabulary Scale (BPVS) at baseline
 - 2.2. Cambridge Examination for mental disorders of the elderly revised (CAMDEX-R) section on Cognitive Examination (CAMCOG) after 4 weeks maintenance lithium treatment at therapeutic dose

Completion date

31/12/2011

Eligibility**Key inclusion criteria**

1. Individuals with Down's syndrome
2. Over the age of 18 years, either sex
3. Able to provide informed consent for themselves or have a representative to provide proxy consent on their behalf if they lack capacity
4. Able to communicate with the investigator and to comply with requirements of the study
5. Has carer support

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Total final enrolment

19

Key exclusion criteria

1. Individuals with contraindications to lithium treatment
2. Individuals with contraindications to undergoing a magnetic resonance scan
3. Non-compliance with taking of the tablets between baseline and the final assessment
4. Treatment with lithium within the last 6 months
5. Evidence of dementia
6. Evidence of renal, thyroid or cardiac disease that would contraindicate taking lithium
7. Pregnancy

Date of first enrolment

01/06/2009

Date of final enrolment

31/12/2011

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Professor of Psychiatry and Brain Maturation

London

United Kingdom

SE5 8AF

Sponsor information

Organisation

King's College London (UK)

ROR

<https://ror.org/0220mzb33>

Funder(s)

Funder type

Charity

Funder Name

Baily Thomas Charitable Fund (UK) (ref: 2215/1)

Alternative Name(s)

The Baily Thomas Charitable Fund

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?
Basic results			20/05/2019	No	No
HRA research summary			28/06/2023	No	No