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Lithium carbonate for patients with amyotrophic lateral sclerosis

Submission date 25/03/2009	**Recruitment status** No longer recruiting	[_] Prospectively registered [X] Protocol [_] Statistical analysis plan [X] Results [_] Individual participant data
Registration date 08/05/2009	**Overall study status** Completed	
Last Edited 13/06/2017	**Condition category** Nervous System Diseases	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number
2008-006891-31

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
RAA/2008/013

Study information

Scientific Title
A double-blind randomised controlled trial of lithium carbonate in patients with amyotrophic lateral sclerosis

Acronym
LiCALS

Study objectives
Lithium carbonate, combined with standard amyotrophic lateral sclerosis (ALS) treatment, may prolong survival, slow the rate of functional deterioration and improve the quality of life and mental state of ALS patients, measured over 18 months.

Ethics approval required
Old ethics approval format

Ethics approval(s)
South East Research Ethics Committee, 17/02/2009, ref: 09/H1102/15

Study design
Multicentre double-blind randomised parallel-group controlled trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details to request a patient information sheet

Health condition(s) or problem(s) studied
Amyotrophic lateral sclerosis (ALS); also known as motor neurone disease (MND)

Interventions
Lithium carbonate or matched placebo.

The dose will be titrated during the first 4 weeks of the trial (some patients may require a longer titration period) to achieve plasma lithium levels of 0.4 - 0.8 mmol/l. Tablets will be given orally once a day (in the evening). The tablets contain 295 mg of lithium carbonate or placebo - it is anticipated that most patients will be on two tablets for the duration of the trial, following the titration phase. Some people may need three tablets or, in exceptional circumstances, four.

The total duration of treatment (and follow-up) is 18 months (77 weeks).

Intervention Type
Drug

Phase
Phase IV

Drug/device/biological/vaccine name(s)
Lithium carbonate

Primary outcome measure
Death from any cause at 18 months defined from the date of randomisation

Secondary outcome measures
1. Slope of ALS Functional Rating Scale - Revised (ALSFRS-R) scores
2. Change in EuroQOL (EQ-5D)
3. Change in Hospital Anxiety and Depression Scale (HADS)

Measured at week 0 (baseline), week 12 (month 3), month 6, 9, 2, 15 and 18 (and withdrawal).

Overall study start date
01/05/2009

Completion date
01/03/2012

Eligibility

Key inclusion criteria
1. Patients with possible, laboratory-supported probable, probable or definite ALS according to the revised version of the El Escorial World Federation of Neurology criteria (The Airlie House Statement: http://www.wfnals.org). These criteria are internationally accepted research diagnostic criteria with high specificity and sensitivity. The onset form (bulbar or limb) and disease type (familial or sporadic) will be recorded; source documents will include a full report of an electromyogram (EMG) reported by an experienced neurophysiologist as compatible with ALS. The neurological exam should be performed by a physician.
2. Disease duration greater than or equal to 6 months and less than or equal to 36 calendar months (inclusive), with disease onset defined as date of first muscle weakness, or dysarthria
3. SVC greater than or equal to 60% of predicted within 1 month prior to randomisation
4. Aged greater than or equal to 18 years (inclusive), either sex
5. In the case of a female with childbearing potential, the patient must not be pregnant or breast-feeding. Women of childbearing potential will have a urine pregnancy test before randomisation and at each clinic visit. The results of those must be negative. Women of childbearing potential should use adequate contraception.
6. Continuously treated with riluzole for at least 4 weeks prior to screening (28 days inclusive) and stabilised at 100 mg/day (50 mg twice daily [bid]) without significant adverse drug reactions
7. Capable of understanding the information given and giving fully informed consent prior to any study specific procedures

Participant type(s)
Patient

Age group
Adult

Lower age limit
18 Years

Sex
Both

Target number of participants
220

Key exclusion criteria
1. Participation in another therapeutic study within the preceding 12 weeks or use of other investigational drugs or agents
2. Tracheostomy, or assisted ventilation of any type during the preceding three months
3. Existing gastrostomy, unless elective and not currently used for nutritional support or hydration
4. Any medical condition known to have an association with motor neuron dysfunction which might confound or obscure the diagnosis of ALS
5. Presence of any concomitant life-threatening disease or any disease or impairment likely to interfere with functional assessment
6. Confirmed hepatic insufficiency or abnormal liver function (aspartate aminotransferase [AST] or alanine aminotransferase [ALT] greater than 1.5 times the upper limit of the normal range) within one month of randomisation. That blood test may be repeated in the case of initial abnormal results; if the levels return to normal, the patient may then be included in the study.
7. Renal insufficiency (serum creatinine greater than upper limit of normal [ULN] for the centre /local laboratory) within one month of randomisation. That blood test may be repeated in the case of initial abnormal results; if the level returns to normal, the patient may then be included in the study.
8. Recorded diagnosis or evidence of major psychiatric disorder or clinically evident dementia
9. Known allergy or hypersensitivity to lithium, or its excipients
10. Likely to be uncooperative or to fail to comply with the trial requirements or to be inaccessible in the event of an emergency
11. Subjects with significant haematological, biochemical and autoimmune abnormalities, as judged by the study physician
12. If a woman of childbearing potential, unable or unwilling to use effective contraception during the study
13. Patients with active inflammation/infection at screening or baseline (day 0). Patients presenting with active inflammation/infection can be reassessed at a later date, and included in the trial if the infection/inflammation has cleared.
14. Patients already taking lithium in any form
15. Presence of a medical condition contra-indicative to the use of lithium, according to the British National Formulary (BNF) (http://www.bnf.org/bnf/)

Date of first enrolment
01/05/2009

Date of final enrolment
01/03/2012

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
King's College London
London
United Kingdom
SE5 8AF

Sponsor information

Organisation
King's College London (UK)

Sponsor details
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SE5 8AF

Sponsor type
University/education

Website
http://www.iop.kcl.ac.uk/

ROR
https://ror.org/0220mzb33

Funder(s)

Funder type
Charity

Funder Name
Motor Neurone Disease (MND) Association (UK) (ref: Leigh/Jul08/RF/6345)

Alternative Name(s)
MND Association, MNDA

Funding Body Type
Private sector organisation

Funding Body Subtype
Associations and societies (private and public)

Location
United Kingdom

Results and Publications

Publication and dissemination plan
Not provided at time of registration

Intention to publish date

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	21/09/2011		Yes	No
Results article	results	01/04/2013		Yes	No
HRA research summary			28/06/2023	No	No