

Assessing the efficacy of Ibudilast as an adjuvant treatment to decompressive surgery for degenerative cervical myelopathy

Submission date 27/08/2020	Recruitment status Recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 03/09/2020	Overall study status Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 06/06/2025	Condition category Nervous System Diseases	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Degenerative cervical myelopathy (DCM), wear and tear arthritis of the spine, specifically the neck, resulting in injury to the spinal cord, is the most common spinal cord disorder of adulthood. In DCM, arthritis of the spine causes compression of the spinal cord.

The symptoms of DCM are often mistaken for the natural consequences of aging, including numb and clumsy hands, loss of coordination, imbalance, and bladder and bowel problems. The weakness can progress to severe paralysis. Every year approximately 4 individuals in 100,000 undergo surgery for DCM, however, many more individuals are thought to suffer from DCM. The main treatment for DCM is surgery. The aim of surgery is to create space and remove the compression of the spinal cord. This is known to prevent further injury. Unfortunately, the post-operative improvements are often incomplete and many patients remain severely disabled. Improving outcomes after surgery represents an important unmet clinical need.

Clinical and preclinical findings indicate that the drug Ibudilast can stimulate repair by stem cells and nerve cells in the spinal cord. Ibudilast is well-tolerated and used to treat asthma and post-stroke dizziness in Japan and is currently being investigated for use in treating other neurological diseases.

This study will investigate whether daily administration of Ibudilast by mouth for a maximum of 34 weeks can improve hand function, strength, balance, and urinary problems, and reduce pain.

Who can participate?

Individuals between 18-80 years old, diagnosed with DCM and scheduled for an operation for the first time will be invited to participate in the trial.

What does the study involve?

The study will entail patient questionnaires and clinical assessments before surgery, shortly after surgery and 3, 6, and 12 months after surgery. Moreover, patients will undergo MRI scans pre-operatively and at 6-months post-operatively to determine whether the treatment was successful.

What are the possible benefits and risks of participating?

Not provided at time of registration

Where is the study run from?

The study will initially be conducted at 6 sites in the UK, with more sites added as necessary.

When is the study starting and how long is it expected to run for?

September 2020 to March 2029

Who is funding the study?

National Institute for Health Research (UK)

Who is the main contact?

Paula Turnbull, paula.turnbull@nhs.net

Contact information

Type(s)

Scientific

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Additional identifiers

EudraCT/CTIS number
2017-004856-41

IRAS number
213009

ClinicalTrials.gov number
NCT04631471

Secondary identifying numbers
CPMS 44808, IRAS 213009

Study information

Scientific Title

REgeneration in CErvical DEgenerative myelopathy (RECEDE): a multi-centre, double-blind, randomised, placebo controlled trial assessing the efficacy of Ibudilast as an adjuvant treatment to decompressive surgery for degenerative cervical myelopathy

Acronym
RECEDE

Study objectives

Ibudilast improves recovery following surgical decompression of degenerative cervical myelopathy.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 19/06/2020, London - Central Research Ethics Committee (The Association of Anaesthetists, 21 Portland Pl, Marylebone, London, UK W1B 1PY; +44 (0)207 104 8208; londoncentral.rec@hra.nhs.uk), ref: 20/LO/0185

Study design
Randomized controlled trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)

Hospital

Study type(s)

Treatment

Participant information sheet

See study outputs table

Health condition(s) or problem(s) studied

Degenerative cervical myelopathy

Interventions

Participants in the trial will be randomly allocated to one of two groups by their unique trial ID number. One group will be given Ibudilast, the test drug, while the other group will receive a placebo that will appear the same as the Ibudilast. Neither participants nor their doctors will know which group they have been allocated to. By comparing the outcomes between the two groups, we will be able to see whether giving Ibudilast provides a benefit to patients. This study includes a placebo arm since it is not known whether Ibudilast provides benefit and hence a position of equipoise exists.

Each participant will be on trial for approximately 15 months (± 21 days). Ibudilast treatment will start within 10 weeks prior to surgery and will continue for up to 24 weeks after surgery. Treatment will be halted 5 days prior to surgery and resumed at the previous maximum dose right after operation. Patients will be taking Ibudilast for a maximum of 34 weeks. Participants will be followed up for 12 months after surgery.

The majority of participants will be identified from participating neurosurgical centres, typically via outpatient clinics. After being told about the study and given the participant information sheet, potential participants will have time to think about participating, and they will have the opportunity to ask a member of the research team any questions they might have. If potential participants decide to take part, they will be asked to sign a consent form and will be given a copy of the participant information sheet and informed consent form to keep. Then they will be given a unique trial ID number that, along with their date of birth, will be used to identify them during their involvement in the trial.

Screening procedures to establish eligibility include a review of participant medical history, age, DCM characteristics, and medications. Clinicians will also perform the following assessments: neurological examination, mJOA assessment, laboratory tests (Full Blood Count, Liver Function Test, Urea and Electrolytes, and urine analysis), an Electrocardiogram, and a serum pregnancy test for women, as we are not including pregnant women in this trial.

Initial assessments following confirmation of eligibility include demographics (weight, gender, ethnicity, date of birth) and review of potential adverse events (starting from point of giving informed consent). Clinicians will also perform the following assessments: 30 metres walk test, VAS pain, SF-36 and EQ-5D/Health Resource usage. Optional additional assessments include: GRASSP-Cervical Myelopathy, SCIMv3, NDI, Quick-DASH and Carer QoL (for sub-study). Dosing diary will be issued during this visit and patients will be instructed on how to fulfill it. A serum sample will be taken for PK studies.

Pre-operatively, following the start of treatment, adverse events will be reviewed by phone call, and Ibudilast or placebo will be delivered by courier or collected from the site by the participant.

Additionally, study drug compliance will be assessed, and any changes to medical or drug history will be reviewed. Clinicians will also perform the following assessments: Laboratory Tests (FBC, LFT and U&Es), WHO performance status, Neurological examination, mJOA, 30m walk test, Respiratory Physiology, MRI and a serum sample for PK studies will be taken. Participants will be asked to complete the following questionnaires: VAS pain, SF-36, and EQ-5D/Health Resource usage. The following optional assessments will be conducted for sub-studies: Carer QoL, and Gait Lab (sub-study for Addenbrooke's only). The following assessments are optional: GRASSP-Cervical Myelopathy, SCIMv3, NDI and Quick-DASH.

An optional CSF sample will be taken intra-operatively, if possible but not limited to, and a paired serum sample for PK studies will be taken.

Post-operative procedures on discharge will include: adverse events will be reviewed (including operative complications), drug compliance assessed, and further IMP dispensed. Clinicians will also perform a neurological examination. Participants will be asked to complete the VAS Pain questionnaire. The NDI questionnaire is optional.

Follow-up assessments at 3 months post-surgery (± 21 days) include a review of medication and adverse events, study drug compliance assessment, and further IMP dispensed. Clinicians will also perform the following assessments: Laboratory Tests (FBC, LFT and U&Es), neurological examination, mJOA, 30m walk test and a serum sample for PK studies will be taken. Participants will be asked to complete the following questionnaires: VAS pain and SF-36. The following optional assessments will be conducted for sub-studies: Carer QoL and Gait Lab (sub-study for Addenbrooke's only). The following assessments are optional: GRASSP-Cervical Myelopathy, NDI, EQ-5D/Health Resource usage and Quick-DASH.

Similarly at 6 months post-surgery (± 21 days), medication will be reviewed, adverse events reviewed, and study drug compliance assessed. Clinicians will also perform the following assessments: Laboratory Tests (FBC, LFT and U&Es), neurological examination, mJOA, 30m walk test, Respiratory physiology, MRI and a serum sample for PK studies will be taken. Participants will be asked to complete the following questionnaires: VAS pain, SF-36, and EQ-5D/Health Resource usage. The following optional assessments will be conducted for sub-studies: Carer QoL and Gait lab (sub-study at Addenbrooke's only). The following assessments are optional: GRASSP-Cervical Myelopathy, SCIMv3, NDI and Quick-DASH.

At the end of the trial, at 12 months post-surgery (± 21 days), adverse events will be reviewed. Clinicians will perform the following assessments: Laboratory Tests (FBC, LFT and U&Es), neurological examination, mJOA, 30m walk test and a serum sample for PK studies will be taken. Participants will be asked to complete the following questionnaires: VAS pain, SF-36 and EQ-5D /Health Resource usage. The following optional assessment will be conducted for sub-study: Carer QoL. The following assessments are optional: GRASSP-Cervical Myelopathy, NDI and Quick-DASH.

Intervention Type

Drug

Pharmaceutical study type(s)

Not Applicable

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Ibutilast

Primary outcome measure

1. Motor dysfunction in upper and lower extremities, loss of sensation, and sphincter dysfunction measured by change in the modified Japanese Orthopaedic Association Score (mJOA), an 18-point clinician-administered scale, between screening and 6 months post-operatively
2. Neck pain measured by change in Visual Analogue Scale (VAS) neck pain between screening and 6 months post-operatively

Secondary outcome measures

Health-related quality of life measured using the Physical Component Summary (PCS) and the Mental Component Summary (MCS) from the Short Form 36 (SF-36) v2 questionnaire between screening and 6 months post-operatively

Overall study start date

03/03/2017

Completion date

31/03/2029

Eligibility**Key inclusion criteria**

1. Aged 18 to 80 years
2. Informed consent to participate given
3. Degenerative cervical myelopathy
4. Preoperative mJOA score ≥ 8 and ≤ 14
5. Scheduled for first surgical decompression as part of usual clinical practice

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Upper age limit

80 Years

Sex

Both

Target number of participants

Planned Sample Size: 362; UK Sample Size: 362

Key exclusion criteria

1. Previous surgery for degenerative cervical myelopathy
2. Degenerative cervical myelopathy symptoms due to cervical trauma, determined at the discretion of the investigator
3. Hypersensitivity to Ibudilast or any of the formulation components
4. Evidence of acute hepatitis, clinically significant chronic hepatitis, or evidence of clinically significant impaired hepatic function through clinical and laboratory evaluation (including ALP >1.5x ULN; ALT or AST >2x ULN; GGT >3x ULN)
5. Evidence of thrombocytopenia at screening through laboratory evaluation including platelet count <5000
6. Active malignancy defined as a history of invasive malignancy, except if the patient has received treatment and displayed no clinical signs and symptoms for ≥5 years
7. Recent history (≤3 years) of chemical substance dependency or significant psychosocial disturbance that may impact the outcome or trial participation
8. Female patients with child bearing potential who are unwilling or unable to use reliable methods of contraception
9. Female patients who are pregnant, lactating or planning pregnancy during the course of the trial
10. Inability to comply with trial procedures or follow-up schedule including IMP regime
11. Unable to take gelatin-based product
12. Participation in another CTIMP or device trial ≤30 days before the time of recruitment
13. Functional disability from a concomitant neurological disease that would mask the symptoms of degenerative cervical myelopathy, determined at the discretion of the investigator. Including but not limited to stroke with a residual disability, cerebellar ataxia, Parkinson's disease, symptomatic lumbar stenosis, and multiple sclerosis.
14. Resting pulse < 50 bpm, sinoatrial or atrioventricular block, uncontrolled hypertension, or corrected QT interval (QTcF) >450 ms
15. History of stomach or intestinal surgery or any other condition that could interfere with, or is judged by the investigator to interfere, with absorption, distribution, metabolism, or excretion of IMP
16. Unable to converse, read, or write English

Date of first enrolment

28/09/2020

Date of final enrolment

28/02/2028

Locations

Countries of recruitment

England

United Kingdom

Study participating centre

Cambridge University Hospitals NHS Foundation Trust
Addenbrookes Hospital
Hills Road
Cambridge

United Kingdom
CB2 0QQ

Study participating centre

University College London Hospitals NHS Foundation Trust
250 Euston Road
London
United Kingdom
NW1 2PG

Study participating centre

The Walton Centre NHS Foundation Trust
Lower Lane
Liverpool
United Kingdom
L9 7LJ

Study participating centre

Kings College Hospital NHS Foundation Trust
Denmark Hill
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SE5 9RS

Sponsor information

Organisation

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Sponsor type

Hospital/treatment centre

Website

<http://www.cuh.org.uk/>

ROR

<https://ror.org/04v54gj93>

Funder(s)

Funder type

Government

Funder Name

NIHR Academy; Grant Codes: CS-2015-15-023

Funder Name

National Institute for Health Research (NIHR) (UK)

Alternative Name(s)

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

United Kingdom

Results and Publications

Publication and dissemination plan

Planned publication in a high-impact peer reviewed journal.

Intention to publish date

28/09/2026

Individual participant data (IPD) sharing plan

The datasets generated and/or analysed during the current study during this study will be included in the subsequent results publication

IPD sharing plan summary

Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article	protocol	07/03/2023	08/03/2023	Yes	No
HRA research summary			28/06/2023	No	No