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A trial to prevent epilepsy in people having surgery for a meningioma brain tumour

Submission date
04/11/2022

Recruitment status
Recruiting

Registration date
22/06/2023

Overall study status
Ongoing

Last Edited
04/09/2025

Condition category
Nervous System Diseases

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
STOP'EM is a study for adults with a meningioma that needs surgical removal and who have not had a seizure before. We want to know if a short course of an anti-epileptic drug (AED) started 1 day before surgery prevents seizures happening after surgery.
Meningioma are the commonest primary brain tumour. They grow from the lining of the brain. In the UK each year about 1600 people with a meningioma have surgery. Approximately 70% of people do not present with epileptic seizures, but after surgical removal, around 12% will have a seizure within 12 months. Seizures affect quality of life and lead to uncertainty about the future. In patients who have never had a seizure, neurosurgeons don't know whether giving an AED before surgery (prophylaxis) will prevent seizures. Some neurosurgeons use prophylaxis and others don't.
STOP'EM will compare a well-established AED called levetiracetam, to a placebo (a capsule that looks the same but contains no active drug). STOP'EM will look at whether starting levetiracetam shortly before surgery as a preventative measure:
1. reduces the chance of having a seizure in the 12 months after surgery
2. allows more people to resume driving 12 months after surgery
3. affects the quality of life in patients
4. is cost-effective

Who can participate?
Adults who have a meningioma that needs surgical removal & who haven't had a seizure before can take part. We will recruit 1004 patients. Patients will be assigned at random to either:

What does the study involve?
Group 1: levetiracetam for 14 days
Group 2: placebo for 14 days

Participants will follow the normal care pathway and will be followed up regularly for 12 months to assess if they develop seizures & to measure their quality of life.

What are the possible benefits and risks of participating?
Benefits:

We hope that the results from the study will help patients and doctors in the future when making decisions about treatment.
Risks:
Possible common side effects when people are taking levetiracetam are drowsiness, headache, fatigue and dizziness, many of which patients will experience after removal of a meningioma. It is not possible to minimise these risks as they are potential side effects from an established drug (levetiracetam).

Where is the study run from?
Liverpool Clinical Trials Centre (UK)

When is the study starting and how long is it expected to run for?
Nnovember 2022 to September 2027

Who is funding the study?
National Institute for Health and Care Research (NIHR) Health Technology Assessment (HTA) Programme (UK)

Who is the main contact?
Priya Francis, stopem@liverpool.ac.uk
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Contact information

Type(s)
Public

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Additional identifiers

Clinical Trials Information System (CTIS)
2022-002371-10

Integrated Research Application System (IRAS)
1005506

Central Portfolio Management System (CPMS)
56466

Protocol serial number
UoL001699

Study information

Scientific Title
Surgeons Trial Of Prophylaxis for Epilepsy in seizure naïve patients with Meningioma: a randomised controlled trial (STOP'EM)

Acronym
STOP'EM

Study objectives
Primary objective:
To determine whether 2 weeks prophylactic levetiracetam treatment reduces the risk of developing seizures within 12 months of surgical resection of newly-diagnosed seizure naïve meningioma compared to placebo

Secondary objectives:
1. To improve the understanding of the safety of prophylactic levetiracetam
2. To determine whether prophylactic levetiracetam influences quality of life
3. To determine the 30-day morbidity and mortality associated with meningioma surgery

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 24/04/2023, London - Central Research Ethics Committee (3rd Floor, Barlow House, 4 Minshull Street, Manchester, M1 3DZ, United Kingdom; +44 207 104 8061; londoncentral.rec@hra.nhs.uk), ref: 22/LO/0868

Study design
Interventional double blind randomized parallel group placebo controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Intracranial meningioma and epilepsy

Interventions
Levetiracetam 250mg (IMP) or Placebo – Participant will take IMP/placebo twice a day (2 x 250mg capsules, morning and evening) for 14 days in total. Treatment will begin 24 hours prior to surgery (participant will be in hospital for 2-3 days, and at home for the remainder of the treatment period).

Intervention Type
Drug

Phase
Phase III

Drug/device/biological/vaccine name(s)
Levetiracetam

Primary outcome(s)
Time to at least one seizure at 12 months post-surgery measured using patient records

Key secondary outcome(s))
Measured using patient records unless noted otherwise:
1. Time to first seizure
2. Time to first convulsive seizure
3. Time to first unprovoked seizure (seizure from day 8 onwards)
4. Driving under licence at 6 and 12 months
5. EQ-5D-5L at pre-surgery, 4-6 weeks post-surgery, 12 weeks post-surgery, 52 weeks post-surgery
6. Serious adverse reactions. Active monitoring of SARs will be from the period of randomisation until completion of IMP course, plus 1 week
7. Landriel Ibañez classification 30 days post-surgery

Completion date
30/09/2027

Eligibility

Key inclusion criteria
1. Newly-diagnosed meningioma on MRI
2. Seizure-naïve at presentation
3. Surgical resection of meningioma planned
4. Age ≥16 years
5. Written and informed consent

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
16 years

Sex
All

Key exclusion criteria
1. Posterior fossa meningioma
2. Previous history of epilepsy
3. Previous history of provoked seizures
4. Previous cranial neurosurgery for any cause
5. Renal failure (Chronic Kidney Disease [CKD] 4-5)
6. Use of anti-epileptic drug for another indication (e.g. trigeminal neuralgia) within 7 days preceding randomisation
7. Known hypersensitivity to levetiracetam, other pyrrolidone derivatives or any of the excipients
8. Actively breastfeeding
9. Weigh below 50kg (if aged 16 or 17 years)

Date of first enrolment
01/07/2024

Date of final enrolment
01/07/2028

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Liverpool Clinical Trials Centre (LCTC)
University of Liverpool
2nd Floor Institute in the Park
Alder Hey Children's NHS Foundation Trust
Eaton Road
Liverpool
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L12 2AP

Sponsor information

Organisation
University of Liverpool

ROR
https://ror.org/04xs57h96

Funder(s)

Funder type
Government

Funder Name
Health Technology Assessment Programme

Alternative Name(s)
NIHR Health Technology Assessment Programme, Health Technology Assessment (HTA), HTA

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

Anonymous data from the trial will be made available to share with external researchers. All requests for access to these data will be reviewed by the Sponsor and data controllers. stopem@liverpool.ac.uk

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Study website	Study website	11/11/2025	11/11/2025	No	Yes