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MonoGerm: A trial to test if using one chemotherapy drug is as good as using three chemotherapy drugs before radiotherapy for patients with germinoma brain tumours

Submission date
15/08/2025

Recruitment status
Recruiting

Registration date
08/01/2026

Overall study status
Ongoing

Last Edited
08/01/2026

Condition category
Cancer

[ ] 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
MonoGerm is a trial to test if using one chemotherapy drug is as good as using three chemotherapy drugs before radiotherapy for patients with germinoma brain tumours.
We are trying to find out if germinomas respond to one-drug outpatient chemotherapy ('monotherapy') as well as three-drug chemotherapy, and does monotherapy cause fewer side-effects?

Who can participate?
Patients of any age, diagnosed with localised intracranial germinoma.

What does the study involve?
As part of this trial, patients will receive up to 12 weeks of either carboplatin every three weeks (18 patients), or weekly vinblastine (18 patients). Disease response will be compared with the expected response to standard three-drug chemotherapy. After chemotherapy patients will receive radiotherapy as per current standard treatment.
An early MRI scan after six weeks of treatment will be reviewed by experts and if disease response is not good enough, treatment will be switched to standard three-drug chemotherapy. The trial will be closely monitored against pre-agreed safety criteria and will be stopped if these are not met.
We will also treat patients with metastatic disease as part of this trial. Currently, patients whose tumours have spread have radiotherapy to the whole brain and spine (no chemotherapy). Radiotherapy takes time to arrange, during which the tumour can grow. On this trial weekly vinblastine will be given, if delays are expected, to try and help shrink tumours to prevent complications. This treatment could potentially reduce the doses of radiotherapy required for these patients in the future.

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

We hope that patients will have a better quality-of-life with fewer side effects and will spend less time in hospital.
Risks:
Stratum 1: Localised Disease
There is a small risk that monotherapy with either carboplatin or vinblastine alone are not as effective as the standard treatment, which is a multi-drug combination. We cannot know this for certain until we do this study. By performing an extra 'safety' scan after approximately six weeks we aim to identify early on if anyone is not responding as well as we would expect, so that they can be switched to receive standard chemotherapy. If this happened, the patient would have received an extra six weeks of single-drug chemotherapy they would not have otherwise had i.e. if they did not take part in the trial. We will be closely reviewing disease responses in all patients and if there is any sign that one treatment is not as effective as standard treatment we will stop recruitment to that treatment arm.

In general, patients taking part in this trial will have fewer interventions than are required as part of standard-of-care. However, there are some additional research samples required. These include additional blood samples for the miRNA analysis and pharmacokinetic (PK) studies, and additional cerebrospinal fluid (CSF) samples. Where possible any blood samples will be taken at the same time as routine samples. This may not always be possible, especially for the PK samples. Samples will also be taken via the central line or cannula to minimise discomfort and burden to the patient. The additional CSF sample for the miRNA studies will be taken, where possible, at the same time as the routine diagnostic sample. However, some patients may be identified as potential trial patients after the routine sample has already been taken. Sites are encouraged to take opportunities to collect research samples are diagnosis, with the participant' s consent, for biobanking. However there may be some patients for whom an additional lumbar puncture is required. Participants are informed of this during the consent process. Risks associated with lumbar puncture are very low but include the anaesthetic and risk of discomfort /pain and infection (similar to any minor procedure) for the individual. Research teams are used to managing this as lumbar punctures are common procedures in this setting.

Quality of Life (QoL) – questionnaires may represent additional burden for the patient participant and/or caregiver, however this part of the study has been designed to minimise the number of timepoints where data is collected. The questionnaires are short and should not take long for the participant to complete.

Stratum 2: Metastatic Disease
There is a risk of side effects from the chemotherapy. Patients with metastatic germinoma wouldn't normally be treated with chemotherapy before their radiotherapy, so an extra risk of taking part in this study will be the risk of potential side-effects that are associated with the chemotherapy (vinblastine). However, vinblastine monotherapy is typically very well tolerated as each weekly dose is delivered based on regular full blood count assessment.

Where is the study run from?
University of Birmingham (UK)

When is the study starting and how long is it expected to run for?
August 2025 to June 2033

Who is funding the study?
Little Princess Trust (UK)
Children's Cancer Leukaemia Group (CCLG) (UK)

Who is the main contact?
monogerm@trials.bham.ac.uk

Lay summary under review with external organisation

Contact information

Type(s)
Public, Scientific

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Dr . Study Team

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Additional identifiers

Integrated Research Application System (IRAS)
1009937

Protocol serial number
RG_23-057

Study information

Scientific Title
MonoGerm: A phase II trial of carboplatin or vinblastine monotherapy induction prior to radiotherapy for patients with intracranial germinoma

Acronym
MonoGerm

Study objectives
The primary objective of the trial is to establish non-inferiority of the radiological complete response (CR) rate to either single agent carboplatin or vinblastine (Stratum 1) compared with the rate that would be expected with standard-of-care (SOC) chemotherapy in patients with localised central nervous system (CNS) (intracranial) germinoma using the 2022 international consensus neuroradiological criteria.

The secondary objectives are to:
1. Establish the objective radiological response [CR + partial response (PR)] rate to single agent vinblastine in patients with metastatic intracranial germinoma, where there is an anticipated time of ≥ two weeks from diagnosis to starting radiotherapy (RT) (Stratum 2).
2. Evaluate the concordance of responses based on the 2022 international consensus neuroradiological criteria with those based on historic European (SIOPE) and North American (COG) criteria.
3. Determine the adverse event (AE) profile of each monotherapy compared with that which would be expected for patients treated with SOC chemotherapy
4. Describe Quality of Life (QoL) and Patient Reported Outcome Measures (PROMs) compared with historical trial data, including disease and treatment burden, for each monotherapy, and for any patients switching to receive SOC chemotherapy
5. Prospectively evaluate ongoing neuroradiological response of patients with radiological partial response (PR) after induction chemotherapy and following SOC RT and into early follow-up.

Ethics approval required
Ethics approval required

Ethics approval(s)
Not yet submitted

Primary study design
Interventional

Study design
Interventional non randomized

Study type(s)
Efficacy, Safety

Health condition(s) or problem(s) studied
Intracranial germinoma

Interventions
In this study the participants diagnosed with localised intracranial germinoma will receive either carboplatin or vinblastine monotherapy (Stratum 1). Carboplatin monotherapy: Intravenous (IV) carboplatin area-under-the-curve (AUC) 10 mg/mL.min (AUC10) dosing once per three-week cycle, for up to four cycles. Carboplatin should be administered as an IV infusion over 1 hour. Vinblastine monotherapy: vinblastine 5 mg/m2 once weekly for 12 weeks administered as a bolus injection (preferred if feasible) or a 15-minute infusion, as per institutional practice.

Maximum dose will be capped at 2 mg. Doses may be increased to 6 mg/m2 in patients whose blood counts remain stable.

In this study, participants diagnosed with metastatic intracranial germinoma will receive vinblastine monotherapy (Stratum 2). Vinblastine monotherapy: vinblastine 5 mg/m2 once weekly for up to 12 weeks administered as a bolus injection (preferred if feasible) or a 15-minute infusion, as per institutional practice. Maximum dose will be capped at 2 mg.

Intervention Type
Drug

Phase
Phase II

Drug/device/biological/vaccine name(s)
Carboplatin, vinblastine

Primary outcome(s)
Complete Response (CR) is defined as the occurrence of a radiological CR by 12 weeks from MRI scans using the 2022 international neuroradiology consensus criteria.

Key secondary outcome(s)
1. CRi is defined as the occurrence of a radiological CR, in the same way as the primary outcome measure, but using the historical European SIOPE criteria.
2. CRii is defined as the occurrence of a radiological CR, in the same way as the primary outcome measure, but using the historical North American (COG) criteria.
3. Objective Response (OR) in Stratum 1 is defined as the occurrence of a radiological CR or partial response (PR), from MRI scans using the 2022 international neuroradiology consensus criteria.
4. Overall Response is defined as the occurrence of a CR, PR, stable disease (SD), progressive disease (PD), or non-evaluable (NE) from MRI scans using the 2022 international neuroradiology consensus criteria.
5. Progression-Free Survival Time (PFS) is defined as the time from date of treatment starting to date of the first failure event, where a failure event is defined as a progression, recurrence, or disease or treatment-related death. Patients without an event at the point of analysis will be censored at the date they were last known to be alive and progression-free.
6. Overall Survival Time (OS) is defined as the time from date of treatment starting to date of disease or treatment-related death. Patients without a death date at the point of analysis will be censored at the date they were last known to be alive.
7. Adverse Reactions (ARs) are the occurrence of relevant adverse events (AEs) that are categorised as possibly, probably or definitely related to treatment using a risk-based approach (see Section 9) defined by the National Cancer Institute (NCI) Common Terminology Criteria for Adverse Events (CTCAE) version 5. All serious and non-serious reactions will be reported.
8. Quality-of-Life (QoL) is measured using age-appropriate children, adolescent and young adult PedsQL v4.0 Generic Core Scales and v1.0 Brain Tumour modules. and will be assessed at baseline, 3, 6, 9, and 12 weeks.
9. Neuroradiological Response, for the secondary objective, is defined as the occurrence of an ongoing response at the overall end-of-treatment (EOT) and/or early follow-up based on MRI imaging when compared with the MRI scan at 12 weeks.
10. Days in Hospital is defined as the total number of days a patient is an in-patient in hospital whilst receiving monotherapy.

Completion date
01/06/2033

Eligibility

Key inclusion criteria
All patients:
1. Any age
2. Diagnosis
2.1. Primary diagnosis of histologically proven intracranial pure germinoma (i.e., with no evidence of non-germinomatous components – teratoma, yolk sac tumour/endodermal sinus tumour, embryonal carcinoma, and/or choriocarcinoma), except those with primary basal ganglia tumours
2.2. Bifocal disease with typical clinical/radiological characteristics (i.e., age ≥8–10 years, presence of diabetes insipidus, and loss of pituitary bright spot on imaging), without histologically proven intracranial pure germinoma after confirmation of eligibility by clinical coordinators
3. Serum and cerebrospinal fluid (CSF) alpha-fetoprotein (AFP) < 25 ng/ml (i.e. <21 ku/l; conversion is 1 ng/ml = 0.83 ku/l)
4. Serum and CSF human chorionic gonadotrophin (HCG) < 50 IU/L
5. Adequate liver function documented by:
5.1. Bilirubin ≤ 1.5 x ULN unless known Gilbert's syndrome or other similar liver syndrome
5.2. Serum ALT and/or AST liver enzyme(s) ≤ 5 x ULN
6. Patients of reproductive potential must agree to use highly effective contraception during treatment and for six months afterwards
7. Documented negative pregnancy test for females of reproductive potential
8. Patient willing and able to comply with scheduled visits, treatment plan, and other study procedures
9. Written informed consent for the trial

Stratum 1 specific inclusion criteria:
1. Localised disease (NOTE: bifocal disease alone is allowed and considered localized)
2. Negative CSF cytology
3. Measurable disease by Magnetic resonance imaging (MRI)

Stratum 2 specific inclusion criteria:
1. Metastatic disease on MRI imaging AND/OR CSF cytology positive for tumour cells
2. Measurable disease by MRI at primary and/or metastatic site(s)
3. Planned start dates of radiotherapy ≥ two weeks from intracranial germinoma diagnosis

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
All

Sex

All

Total final enrolment
0

Key exclusion criteria
All patients:
1. Pregnant or lactating patients
2. Primary basal ganglia tumours (difficult to define tumour volume and response; NOTE: primary measurable suprasellar tumour with contiguous extension into basal ganglia may be included)
3. Contraindication to MRI/receiving contrast
4. Known hypersensitivity to any of the MonoGerm treatments or excipients
5. Live attenuated vaccine given within 30 days
6. Patients for whom non-compliance with treatment, trial procedures, or protocol follow up schedule is expected and all available resources to facilitate inclusion have been exhausted

Date of first enrolment
30/06/2025

Date of final enrolment
31/01/2030

Locations

Countries of recruitment
United Kingdom

England

Scotland

Study participating centre
Cambridge University Hospitals NHS Foundation Trust
Cambridge Biomedical Campus
Hills Road
Cambridge
England
CB2 0QQ

Study participating centre
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh
Scotland
EH1 3EG

Study participating centre
University Hospitals Bristol and Weston NHS Foundation Trust
Trust Headquarters
Marlborough Street
Bristol
England
BS1 3NU

Study participating centre
NHS Greater Glasgow and Clyde
J B Russell House
Gartnavel Royal Hospital
1055 Great Western Road Glasgow
Glasgow
Scotland
G12 0XH

Study participating centre
Birmingham Women's and Children's NHS Foundation Trust
Birmingham Womens Hospital
Metchley Park Road
Birmingham
England
B15 2TG

Study participating centre
The Royal Marsden Hospital (surrey)
Downs Road
Sutton
England
SM2 5PT

Study participating centre
The Newcastle upon Tyne Hospitals NHS Foundation Trust
Freeman Hospital
Freeman Road
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Newcastle upon Tyne
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NE7 7DN

Study participating centre
Oxford University Hospitals NHS Foundation Trust
John Radcliffe Hospital
Headley Way
Headington
Oxford
England
OX3 9DU

Study participating centre
The Christie NHS Foundation Trust
550 Wilmslow Road
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England
M20 4BX

Study participating centre
University Hospitals Birmingham NHS Foundation Trust
Queen Elizabeth Hospital
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Edgbaston
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B15 2GW

Study participating centre
Leeds Teaching Hospitals NHS Trust
St. James's University Hospital
Beckett Street
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LS9 7TF

Sponsor information

Organisation
University of Birmingham

ROR
https://ror.org/03angcq70

Funder(s)

Funder type
Charity

Funder Name
Little Princess Trust

Alternative Name(s)
The Little Princess Trust, LPT

Funding Body Type
Private sector organisation

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

Location
United Kingdom

Funder Name
Children's Cancer Leukaemia Group (CCLG)

Results and Publications

Individual participant data (IPD) sharing plan
Access to this data is controlled through application to the CRCTU New Business Committee and is granted in accordance with the
CRCTU Data Sharing Policy.
The Data Sharing review includes an assessment of contractual obligations and liaising with the Trial Management Group.

IPD sharing plan summary
Available on request