Glioma stem cell organoids: preclinical model of glioblastoma heterogeneity to explore resistance mechanisms to conventional treatment schedules.

Published: 08-09-2017 Last updated: 12-04-2024

to establish primary patient derived organoid cultures from GM to study mechanisms that contribute to aggressive tumor growth and treatment resistance in primary and recurrent GM.

Ethical review Approved WMO **Status** Recruiting

Health condition type Nervous system neoplasms malignant and unspecified NEC

Study type Interventional

Summary

ID

NL-OMON44469

Source

ToetsingOnline

Brief title

Patient-derived glioma stem cell organoids.

Condition

Nervous system neoplasms malignant and unspecified NEC

Synonym

glioma, Primary brain tumor

Research involving

Human

Sponsors and support

Primary sponsor: MAASTRO Lab

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Source(s) of monetary or material Support: KWF grant Alpe D∏Huzes PI M.Vooijs

Intervention

Keyword: Glioblastoma, Glioma stem cell, Organoid

Outcome measures

Primary outcome

Intra-and inter organoid genetic and epigenetic heterogeneity that is

representative for GM

Secondary outcome

Not applicable

Study description

Background summary

Glioblastoma (GM) is the most frequent incurable adult brain tumor with median survival of 15 months after diagnosis, despite extensive treatment with surgery, radiation therapy and chemotherapy. Tumor recurrence is inevitable after which life prolonging therapies are no longer available. The development of new treatments for GM is being hampered by inter-and intratumoral heterogeneity of tumors and their microenvironment, which currently cannot be predicted accurately with current diagnostics.

Study objective

to establish primary patient derived organoid cultures from GM to study mechanisms that contribute to aggressive tumor growth and treatment resistance in primary and recurrent GM.

Study design

Preclinical study, using patient derived glioblastoma tissue

Intervention

not applicable

Study burden and risks

Minimal burden: additional biopsies during a regular neurosurgical procedure (biopsy or debulking).

no benefit for the patient.

Contacts

Public

MAASTRO Lab

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Scientific

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years) Elderly (65 years and older)

Inclusion criteria

- MRI imaging suggestive for glioblastoma
- > 18 years of age

Exclusion criteria

- Karnofsky index < 70
- Clotting disorders
- Neurosurgical contraindications for gross total resection

Study design

Design

Study type: Interventional

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Other

Recruitment

NL

Recruitment status: Recruiting
Start date (anticipated): 10-04-2018

Enrollment: 30

Type: Actual

Ethics review

Approved WMO

Date: 08-09-2017

Application type: First submission

Review commission: METC Z: Zuyderland-Zuyd (Heerlen)

Approved WMO

Date: 02-10-2017

Application type: Amendment

Review commission: METC Z: Zuyderland-Zuyd (Heerlen)

Approved WMO

Date: 06-04-2020

Application type: Amendment

Review commission: METC Z: Zuyderland-Zuyd (Heerlen)

Approved WMO

Date: 25-01-2021

Application type: Amendment

Review commission: METC Z: Zuyderland-Zuyd (Heerlen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register ID

CCMO NL62648.096.17