MRI and MET-PET treatment evaluation in glioblastoma

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Our hypothesis is that a combination of functional MRI techniques and MET-PET shows a higher diagnostic accuracy than anatomical imaging or one functional MRI technique alone.

Ethische beoordeling	Niet van toepassing
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON23945

Bron
NTR

Verkorte titel
MRI and MET-PET treatment evaluation in glioblastoma

Aandoening

Glioblastoma; Glioblastoom

Brain tumour; Hersentumor

Magnetic Resonance Imaging

Ondersteuning

Primaire sponsor: University Medical Center Groningen
Overige ondersteuning: University Medical Center Groningen

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

The primary outcome is to establish the diagnostic accuracy of functional MRI techniques and MET-PET individually and combined in treatment evaluation of glioblastoma.

Toelichting onderzoek

Achtergrond van het onderzoek

Glioblastomas (GBM) are the most malignant brain tumours with low survival rates. Treatment failure causes this tumour to inevitably recur, making close monitoring of GBM patients essential. The gold standard for follow-up is anatomical MR imaging based on contrast enhancement. However, this imaging method is hindered by pseudo-progression which can resemble true tumour progression, but is in fact due to treatment effects.

Functional imaging methods have been employed to overcome the limitations of anatomical MRI by measuring biological aspects of the tumour. Cellular density, tumour neovascularisation and tumour metabolites can be visualised by diffusion MRI, perfusion MRI and MR spectroscopy, respectively. Increased metabolism associated with tumour tissue is detectable with methionine PET (MET-PET). Although these functional imaging techniques individually showed promising results in differentiating pseudo-progression from true tumour progression, a large prospective study comparing all techniques directly in the same patients is lacking.

This study aims to establish the diagnostic accuracy of functional MRI techniques and MET-PET individually and combined in treatment evaluation of glioblastoma.

Doel van het onderzoek

Our hypothesis is that a combination of functional MRI techniques and MET-PET shows a higher diagnostic accuracy than anatomical imaging or one functional MRI technique alone.

Onderzoeksopzet

In this prospective longitudinal cohort study 40 primary glioblastoma patients will undergo multimodal MRI and MET-PET within 72 hours after surgery to acquire a baseline scan. Follow-up scans will be acquired 10 weeks after concomitant chemoradiotherapy (CCRT) and then with 3 months intervals until anatomical follow-up MRI is suggestive of tumour recurrence. The final diagnosis will be made radioclinically or histologically.

Onderzoeksproduct en/of interventie

This study aims to establish the diagnostic accuracy of functional MRI techniques and MET-PET individually and combined in treatment evaluation of glioblastoma.

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Adult patients with a new primary glioblastoma

- Scheduled to undergo standard treatment consisting of surgical resection followed by concomitant chemoradiation and adjuvant chemotherapy according to the Stupp protocol

- Informed consent must be obtained

- No exclusion criteria

Belangrijkste redenen om niet deel te kunnen nemen

(Exclusiecriteria)

- Patients with a recurrent or secondary glioblastoma

- Patients with other intracranial tumours

- Patients with infratentorial glioblastoma

- Prior brain surgery or irradiation of the head

- Patients not scheduled for standard therapy (e.g. who will receive a biopsy without further resection)

- Minors (< 18 years of age)

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Cross-over
Toewijzing:	N.v.t. / één studie arm
Blindering:	Dubbelblind
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-01-2018
Aantal proefpersonen:	40
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing

Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 46687
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL6536
NTR-old	NTR6724
CCMO	NL63082.042.17
OMON	NL-OMON46687

Resultaten