Improving brain penetration of radiolabeled TKI PET tracers through blood brain barrier transporter inhibition

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The primary objective of this study is to obtain clinical proof of principle that the Addition of a PgP/BCRP inhibitor increases CNS concentrations of tyrosine kinase inhibitors by inhibition of drug efflux transporter function in the blood brain...

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON25665

Bron
NTR

Verkorte titel
M14EEP

Aandoening

Cancer
Brain metastases
Tyrosinse Kinase Inhibitors
Drug Transporters

Ondersteuning

Primaire sponsor: Netherlands Cancer Institute - Antoni van Leeuwenhoek
Overige ondersteuning: Startgeld, Netherlands Cancer Institute - Antoni van Leeuwenhoek

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Improved CNS penetration of 11C erlotinib after PGP/BCRP inhibitor administration.

Toelichting onderzoek

Achtergrond van het onderzoek

The primary objective of this study is to obtain clinical proof of principle that the addition of a PgP/BCRP inhibitor
increases CNS concentrations of tyrosine kinase inhibitors by inhibition of drug efflux transporter function in the blood
brain barrier.

Every patient will undergo two PET scans. For both scans an intravenous bolus of [11C]erlotinib will be administered. For
the second scan patients will be instructed to take 1000 mg of a PGP/BCRP inhibitor orally. This will enable us to measure the uptake of [11C]erlotinib in the brain with and without PgP/BCRP inhibition.

Doel van het onderzoek

The primary objective of this study is to obtain clinical proof of principle that the Addition of a PgP/BCRP inhibitor
increases CNS concentrations of tyrosine kinase inhibitors by inhibition of drug efflux transporter function in the blood
brain barrier

Onderzoeksopzet

11C-erlotnib PET scan on 2 successive days.

Follow up visit 7+-2 days afterwards.

Onderzoeksproduct en/of interventie

- 2 11C-erlotinib PET scans. 1 with administration of a PGP/BCRP inhibitor and 1 without.

- 1 MRI of the brain.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

The study population consists of cancer patients with advanced or metastatic solid tumors for whom no standard
therapy is available or for whom a TKI which is a PgP/BCRP substrate is a standard therapeutic option (erlotinib,
sunitinib, imatinib, gefitinib, sorafenib, lapatinib, crizotinib, vemurafenib).

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Known brain metastases;

- Patients who have had previous treatment with central nervous system irradiation;

- Treatment with the tyrosine kinase inhibitor used as TKI PET tracer within three half lives before the PET scans;

- Patients with known alcoholism, drug addiction and/or psychiatric of physiological condition which in the opinion of
the investigator would impair study compliance;

- Patients are not allowed to use co-medication with PgP or BCRP modulators (including OTC medication)

- Patients are also not allowed to use co-medication which are PgP or BCRP substrates as this may lead to increased toxicity.

- Known hypersensitivity to erlotinib, elacridar or any excipients used in the formulation of either IMPs.

- Known contra-indications for a MRI scan.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	20-03-2014
Aantal proefpersonen:	8
Type:	Werkelijke startdatum

Ethische beoordeling

Positief advies

Datum:	10-09-2014
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4629
NTR-old	NTR4780
Ander register	M14EEP : 2014-000281-21

Resultaten