Pharmacokinetic study of rectal and ublingual administration of tacrolimus in healthy volunteers.

Gepubliceerd: 16-02-2011 Laatst bijgewerkt: 13-12-2022

The primary objective is to compare the pharmacokinetic profile of tacrolimus after rectal and sublingual administration with oral administration.

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON20457

Bron
NTR

Verkorte titel
Rectal and sublingual administration of tacrolimus

Aandoening

Tacrolimus, rectal, sublingual, pharmacokinetics.
Tacrolimus, rectaal, sublinguaal, farmacokinetiek.

Ondersteuning

Primaire sponsor: Dr. MHL Christiaans
Maastricht University Medical Centre
P. Debyelaan 25
6229 HX Maastricht
Overige ondersteuning: self-financing research

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Area under the blood concentration of tacrolimus – time curve (AUC).

Toelichting onderzoek

Achtergrond van het onderzoek

Rationale:

Tacrolimus is an immunosuppressant drug that is used to prevent rejection of transplanted donor organs. Both oral and intravenous routes of administration are currently used in clinical practice. A need exists for alternative routes of administration, such as rectal or sublingual administration. These routes of administration have not been adequately assessed.

Objective:

To compare the pharmacokinetic profile of tacrolimus after rectal (suppository) and sublingual (powder) administration with oral (capsule) administration.

Study design:

Open, stratified, randomized, 3-way cross-over trial.

Study population:

Eighteen healthy volunteers, 18-65 years old.

Intervention:

Three single doses of tacrolimus will be administered in randomized order with an interval of at least 1 week:

1. A sublingual dose of 3 mg;

2. A rectal dose of 15 mg;

3. An oral dose of 7 mg.

Venous blood samples are drawn at prespecified time points.

Main study parameters/endpoints:

The area under the blood concentration-time curve (AUC) is used as main study parameter.

Secondary parameters are: Relative bioavailability, the time after administration when the maximum blood concentration is reached (tmax) and the elimination rate constant (kel).

Nature and extent of the burden and risks associated with participation, benefit and group relatedness:

The safety of single doses of tacrolimus has been well established. Volunteers may experience tacrolimus-related adverse effects. These adverse effects are generally mild and transient. During the trial, 42 venous blood samples are taken (a total of 196 ml blood). The trial comprises of 9 site visits. Volunteers will not benefit directly from participation.

Doel van het onderzoek

The primary objective is to compare the pharmacokinetic profile of tacrolimus after rectal and sublingual administration with oral administration.

Onderzoeksopzet

Three single doses of tacrolimus will be administered in randomized order with an interval of at least 1 week.

Onderzoeksproduct en/of interventie

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Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

1. Legally capacitated;

2. 18-65 years old;

3. Using adequate contraception (female volunteers of childbearing potential);

4. Able to comply with the study protocol and willing to give written informed consent.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Concomitant use of medication, grapefruit juice or St John’s worth;

2. Smoking 10 or more cigarettes per day;

3. Simultaneous participation in another clinical trial;

4. Pregnancy or lactation (female volunteers);

5. Abnormal liver biochemistry (>2x upper normal limit);

6. Renal insufficiency (estimated creatinin clearance according to Cockroft-Gault < 70 mL/min);

7. Blood pressure > 160/100 mmHg, measured after at least 10 min rest in semi-recumbent position;

8. Prolonged QT interval, corrected for heart rate using the Bazett's formula (women>470 ms, men>450 ms);

9. Active infection, as determined by clinical examination.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	Geneesmiddel

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-03-2011
Aantal proefpersonen:	18
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies

Datum:	16-02-2011
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	NL2630
NTR-old	NTR2758
Ander register	MEC azM/UM / Drug Research Unit Maastricht : 11-2-004 / DRUM11-TACR;
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Resultaten

Samenvatting resultaten
van de Plas, A., et al., Pilotstudy naar farmacokinetiek bij sublinguale en rectale toediening van tacrolimus. Pharm Weekbl 2008. 2(3): p. 66-8.