

Comparison of de novo sirolimus plus tacrolimus with tacrolimus plus mycophenolic acid in renal transplantation

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| Submission date 15/08/2016 | Recruitment status No longer recruiting | <input type="checkbox"/> Prospectively registered |
| | | <input type="checkbox"/> Protocol |
| Registration date 15/06/2017 | Overall study status Completed | <input type="checkbox"/> Statistical analysis plan |
| | | <input type="checkbox"/> Results |
| Last Edited 17/01/2020 | Condition category Urological and Genital Diseases | <input type="checkbox"/> Individual participant data |
| | | <input type="checkbox"/> Record updated in last year |

Plain English summary of protocol

Background and study aims

A kidney transplant is the transfer of a healthy kidney from one person into the body of a person who has little or no kidney function. People who receive a kidney transplant usually need to take immunosuppressant medications for the rest of their life to prevent the body's immune system from attacking the new kidney (graft loss). For over 20 years calcineurin inhibitor (CNI) drugs such as tacrolimus have been used for immunosuppression. There are many different causes of graft loss including some risk factors that could be managed through improvement of the immunosuppressive treatment. Approaches taken to improve treatment include adding other immunosuppressive treatments to CNIs, especially those with complementary ways of working and different side effects. Tacrolimus in combination with mycophenolic acid (MPA) is an effective immunosuppressive treatment for kidney transplant recipients. The combination of tacrolimus and sirolimus has also been shown to provide effective immunosuppression. The strong combined immunosuppressive effect of tacrolimus plus sirolimus allows the dose of tacrolimus to be reduced when used in combination with sirolimus. The aim of this study is to compare the use of sirolimus plus tacrolimus with tacrolimus plus mycophenolic acid in kidney transplantation.

Who can participate?

Patients aged 18-65 receiving their first kidney transplant

What does the study involve?

Patients are randomly allocated into two groups. After receiving their kidney transplant one group is treated with sirolimus plus tacrolimus and the other group is treated with tacrolimus plus mycophenolic acid. Both groups are followed up over 1 year after their transplant to assess their kidney function.

What are the possible benefits and risks of participating?

The new treatment may reduce the incidence of viral infections and cancer. As with all immunosuppressive treatments there is a risk of transplant rejection and infections.

Where is the study run from?
Labbafinejad Hospital (Iran)

When is the study starting and how long is it expected to run for?
September 2016 to September 2017

Who is funding the study?
Sanofi

Who is the main contact?
Dr Behrang Alipour Abedi

Contact information

Type(s)
Scientific

Contact name
Dr Behrang Alipour Abedi

Contact details
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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title
Comparison of de novo sirolimus plus tacrolimus with tacrolimus plus mycophenolic acid in renal transplantation: a randomized clinical trial

Study objectives
Sirolimus plus tacrolimus has the same effect as tacrolimus plus mycophenolic acid in renal transplantation outcomes.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Shahid Beheshti University of Medical Sciences, 15/08/2016, ref: IR.SBMU.UNRC.1394.25

Study design

Randomised controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Kidney transplantation

Interventions

Participants are randomised by block randomisation to group A or B:

Group A:

Thymoglobulin 3mg/kg divided in 3-4 days

Myfortic (mycophenolic acid) 360 mg x 3 for 7 days then 720 mg/d (initial dose should be started from 1 day before TX)

Prograf (tacrolimus) 0.1 mg/kg/d trough level to reach 8-10 ng for 90 d then 5-8 thereafter (initial dose should be started from 1 day before TX)

Prednisolone MP250 x 2 d then 1mg /kg (max 60 mg) x 3 d, taper 5 mg/d, 15 mg at day 14, 10 mg day 30, 5 mg day 60 and thereafter

Ganciclovir during first 8 days

After using ganciclovir Valcyte (valganciclovir hydrochloride) should be used for 90 days

Group B:

Thymoglobulin 3mg/kg divided in 3-4 days

Prograf (tacrolimus) 0.08 mg/kg to reach trough 6-7 ng/ml for 6 m then toward 4-5 after 6 m (initial dose should be started from 1 day before TX)

Rapamune (sirolimus) 2 mg first d within 96 h of surgery then 1 mg/d reaching trough level around 3-5 for first 6 mo then trough 6-8 ng/ml thereafter (sum of sirolimus + tac around 10-12)

Prednisolone MP250 x 2d then 1 mg /kg (max 60 mg) x 3 d, taper 5 mg/d, 15 mg at day 14, 10 mg day 30, 5 mg day 60 and thereafter

Ganciclovir IV during first 8 days

After using ganciclovir Valcyte (valganciclovir hydrochloride) should be used for 90 days

Participants are followed up at 1-14 days, 1 month, 6 weeks, 2 months, 10 weeks, 3 months, 4 months, 5 months, 6 months, 8 months, 10 months and 12 months.

Intervention Type

Drug

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Thymoglobulin, mycophenolic acid, tacrolimus, prednisolone, ganciclovir, valganciclovir, sirolimus

Primary outcome(s)

1. Estimation of glomerular filtration rate (GFR) based on Modification of Diet in Renal Disease (MDRD) at months 3, 6 and 12

2. Biopsy proven acute rejection (BPAR) (indication for biopsy when creatinine rise > 0.3 mg/dl for continuous 2 days) at months 3 and 12

Key secondary outcome(s))

1. Incidence of borderline changes, subclinical acute cellular rejection and subclinical antibody mediated rejection (ABMR), measured by protocol biopsy at month 4
2. Incidence of new-onset diabetes after transplantation (NODAT) at 3, 6, 12 months
3. Incidence of donor specific anti-HLA antibodies (DSA), measured using solid phase ELISA at 4 and 12 months
4. Incidence of hypertension at 3, 6 and 12 months
5. Incidence of hyperlipidemia (total cholesterol, LDL-C, HDL-C and TG) at months 3, 6 and 12
6. Incidence of CMV viremia (>2000 copies/ml) and CMV disease (fever, leukopenia or organ involvement with CMV DNAemia >2000 copies/ml), measured using CMV viral load every month for first 3 months and then every 3 months for 1 year
7. Incidence of BK viremia (>10000 copy/ml blood) and BK associated nephropathy, measured using BK virus plasma PCR every month for first 3 months then every 3 months

Completion date

01/09/2017

Eligibility

Key inclusion criteria

1. First transplant
2. Cadaveric and living unrelated donor (age of cadaveric donor<50 years)
3. PRA negative (cytotoxicity)
4. Pretransplant anti-HLA negative (solid phase ELISA)
5. BMI <30
6. Age 18-65

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Upper age limit

65 years

Sex

All

Key exclusion criteria

1. DGF (need for dialysis in first week)
2. SGF (serum creatinine > 3 mg/dl in day 3)

Date of first enrolment

01/10/2016

Date of final enrolment

01/04/2017

Locations

Countries of recruitment

Iran

Study participating centre

Labbafinejad Hospital

9th Boostan

Pasdaran Street

Tehran

Iran

2356987452

Sponsor information

Organisation

Shahid Beheshti University of Medical Sciences

ROR

<https://ror.org/034m2b326>

Funder(s)

Funder type

Industry

Funder Name

Sanofi

Alternative Name(s)

sanofi-aventis, Sanofi US, Sanofi-Aventis U.S. LLC, Sanofi U.S.

Funding Body Type

Government organisation

Funding Body Subtype

For-profit companies (industry)

Location

United States of America

Results and Publications

Individual participant data (IPD) sharing plan

The current data sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|-------------------------------|--------------|------------|----------------|-----------------|
| Participant information sheet | Participant information sheet | 11/11/2025 | 11/11/2025 | No | Yes |