ISRCTN19991928 https://doi.org/10.1186/ISRCTN19991928

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

Submission date
15/08/2016

Recruitment status
No longer recruiting

Registration date
15/06/2017

Overall study status
Completed

Last Edited
17/01/2020

Condition category
Urological and Genital Diseases

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] 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 mycofenolic 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 mycofenolic 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
9th Boostan
Pasdaran St
Tehran
Iran
5546859685

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
N/A

Study information

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

Study objectives
Sirolimus plus tacrolimus has the same effect as tacrolimus plus mycofenolic 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

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details to request a patient information sheet

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 measure
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

Secondary outcome measures
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

Overall study start date
01/09/2016

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

Age group
Adult

Lower age limit
18 Years

Upper age limit
65 Years

Sex
Both

Target number of participants
60 in each group

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

Sponsor details

Urology Nephrology Research Center
9th Boostan/Pasdaran St
Tehran
Iran
3366339956

Sponsor type
University/education

Website
http://en.sbu.ac.ir/sitepages/home.aspx

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

Publication and dissemination plan
The trialists intend to publish the study in journals with high impact factors about 3 months after finishing the trial.

Intention to publish date
01/12/2017

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