TransplantLines Food and Nutrition Biobank and Cohort Study (TxL-FN)

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Short-term (1-year) results of renal transplantation are now excellent (over 95%). Long-term (10-year and longer) results are, however, still disappointing. Where most research has focused on immunosuppression and infections, we hypothesize that due…

Ethische beoordeling	Positief advies
Status	Anders
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON22374

Bron
Nationaal Trial Register

Verkorte titel
TxL-FN

Aandoening

Short-term (1-year) results of renal transplantation are now excellent (over 95%). Long-term (10-year and longer) results are, however, still disappointing. Where most research has focused on immunosuppression and infections, we hypothesize that due to poor homeostatic capacity and necessary use of immunosuppressive and other drugs, renal transplant recipients are much more susceptible to poor dietary habits and exposure to potentially toxic contaminants than people of the general population, and that this contributes to accelerated function loss of the graft and excess risk of premature mortality, both contributing to poor long-term results.

To investigate one part of this overarching hypothesis we wrote a project on around the specific topic of the relation between dietary acid load, ammoniagenesis and its potential influence on blood pressure. We used this project to build a biobank and cohort in which we can test additional hypotheses on the relation between diet, contaminants and development of graft failure and the occurrence of mortality.

We also included 300 healthy controls to compare diet, contaminant exposure and

biomarkers with the renal transplant recipients.

Ondersteuning

Primaire sponsor: University Medical Center Groningen
Overige ondersteuning: Top Institute Food and Nutrition (grant A-1003)

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Graft failure and all-cause mortality

Toelichting onderzoek

Achtergrond van het onderzoek

The baseline measurements of the cohort have been performed between 21-11-2008 and 24-05-2011. In this time, 707 renal transplant recipients and 300 healthy potential living kidney donors have been included. The baseline measurements were complemented with a biobank of serum, plasma and 24h urine samples stored at -80 degrees Centigrade. Included participants are now prospectively followed for development of outcome events.

Doel van het onderzoek

Short-term (1-year) results of renal transplantation are now excellent (over 95%). Long-term (10-year and longer) results are, however, still disappointing. Where most research has focused on immunosuppression and infections, we hypothesize that due to poor homeostatic capacity and necessary use of immunosuppressive and other drugs, renal transplant recipients are much more susceptible to poor dietary habits and exposure to potentially toxic contaminants than people of the general population, and that this contributes to accelerated function loss of the graft and excess risk of premature mortality, both contributing to poor long-term results. This study is a biobank and cohort study which investigates this hypothesis.

Onderzoeksopzet

Baseline measurements
Routine outpatient clinical visits

Onderzoeksproduct en/of interventie

No interventions, the cohort is observational

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

More than one year after transplantation, prognosis > 1 year, stable outpatients situation

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Acute illnesses, fever, current hospitalisation

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Anders
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Anders
(Verwachte) startdatum:	21-11-2008
Aantal proefpersonen:	1000
Type:	Onbekend

Ethische beoordeling

Positief advies

Datum:	21-06-2016
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	NL5673
NTR-old	NTR5910
Ander register	TransplantLines Food and Nutrition : METc2008/186

Resultaten

Samenvatting resultaten

1: Frenay AR, Kayacelebi AA, Beckmann B, Soedamah-Muhtu SS, de Borst MH, van den Berg E, van Goor H, Bakker SJ, Tsikas D. High urinary homoarginine excretion is associated with low rates of all-cause mortality and graft failure in renal transplant recipients. Amino Acids. 2015 Sep;47(9):1827-36. doi: 10.1007/s00726-015-2038-6. Epub 2015 Jul 5. PubMed PMID: 26142633.

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3: Keyzer CA, de Borst MH, van den Berg E, Jahnen-Dechent W, Arampatzis S, Farese S, Bergmann IP, Floege J, Navis G, Bakker SJ, van Goor H, Eisenberger U, Pasch A. Calcification Propensity and Survival among Renal Transplant Recipients. J Am Soc Nephrol. 2016 Jan;27(1):239-48. doi: 10.1681/ASN.2014070670. Epub 2015 Apr 29. PubMed PMID: 25925688; PubMed Central PMCID: PMC4696561.

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5: Zittema D, van den Berg E, Meijer E, Boertien WE, Muller Kobold AC, Franssen CF, de Jong PE, Bakker SJ, Navis G, Gansevoort RT. Kidney function and plasma copeptin levels in healthy kidney donors and autosomal dominant polycystic kidney disease patients. Clin J Am Soc Nephrol. 2014 Sep 5;9(9):1553-62. doi: 10.2215/CJN.08690813. Epub 2014 Jul 3. PubMed PMID: 24993447; PubMed Central

PMCID: PMC4152815.

6: van den Berg E, Pasch A, Westendorp WH, Navis G, Brink EJ, Gans RO, van Goor H, Bakker SJ. Urinary sulfur metabolites associate with a favorable cardiovascular risk profile and survival benefit in renal transplant recipients. J Am Soc Nephrol. 2014 Jun;25(6):1303-12. doi: 10.1681/ASN.2013050497. Epub 2014 Feb 7. PubMed PMID: 24511127; PubMed Central PMCID: PMC4033367.

7: Snijder PM, van den Berg E, Whiteman M, Bakker SJ, Leuvenink HG, van Goor H. Emerging role of gasotransmitters in renal transplantation. Am J Transplant. 2013 Dec;13(12):3067-75. doi: 10.1111/ajt.12483. Epub 2013 Oct 30. Review. PubMed PMID: 24266966.

8: Boxma PY, van den Berg E, Geleijnse JM, Laverman GD, Schurgers LJ, Vermeer C, Kema IP, Muskiet FA, Navis G, Bakker SJ, de Borst MH. Vitamin k intake and plasma desphospho-uncarboxylated matrix Gla-protein levels in kidney transplant recipients. PLoS One. 2012;7(10):e47991. doi: 10.1371/journal.pone.0047991. Epub 2012 Oct 31. PubMed PMID: 23118917; PubMed Central PMCID: PMC3485347.

9: van den Berg E, Engberink MF, Brink EJ, van Baak MA, Joosten MM, Gans RO, Navis G, Bakker SJ. Dietary acid load and metabolic acidosis in renal transplant recipients. Clin J Am Soc Nephrol. 2012 Nov;7(11):1811-8. doi: 10.2215/CJN.04590512. Epub 2012 Aug 30. PubMed PMID: 22935845; PubMed Central PMCID: PMC3488949.

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