

# Does Lisinopril protect transplanted kidneys with chronic vascular rejection (CR) from progressive failure?

<b>Submission date</b> 02/09/2005	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 09/09/2005	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 14/06/2011	<b>Condition category</b> Surgery	<input type="checkbox"/> Individual participant data

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Dr Rana Rustom

**Contact details**  
School of Clinical Science  
Metabolic and Cellular Division  
Duncan Building  
Liverpool  
United Kingdom  
L69 3GA  
+44 (0)151 706 4663/4070  
rana.rustom@liv.ac.uk

## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

## Study information

### Scientific Title

### Study objectives

Proteinuria and progression to end-stage renal failure are closely linked in patients with diseased native kidneys. ACE-inhibitors are known to reduce proteinuria and ameliorate the rate of decline of renal function. Data are lacking in kidney transplant patients with proteinuria and chronic allograft nephropathy (CAN). Do comparable beneficial effects of ACE-inhibitors also apply in transplant patients?

Publications resulting from small clinical studies were needed to design this trial as no previous data was available:

Rustom R et al: Effects of Angiotensin-converting-enzyme inhibitors (ACE-i) on progression to end-stage renal failure in chronic vascular rejection (CR). Transplantation Proceedings 2001, 33: 1175-1176.

Rustom R et al: Renal tubular peptide catabolism, injury & ammonia excretion in patients with chronic vascular rejection: effects of Lisinopril. Renal Failure 2001, 23:517-531.

Bone JM, Amara AB, Shenkin A, Hammad A, Sells RA, Alexander J, McArdle F, Rustom R: Calcineurin inhibitors and proximal renal tubular injury in renal transplant patients with proteinuria and chronic allograft nephropathy. Transplantation 2005, 79:119-122.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Not provided at time of registration

### 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

### Health condition(s) or problem(s) studied

End-stage renal failure

## **Interventions**

Use of Lisinopril in the active limb only (dose used titrated in individual patients to achieve maximum reduction in proteinuria without leading to postural hypotension).

Control: usual care

There is very close attention to detail and all patients regardless of which limb in the trial have strict blood pressure control, as well as treatment of their anaemia, metabolic acidosis and secondary hyperparathyroidism.

## **Intervention Type**

Drug

## **Phase**

Not Specified

## **Drug/device/biological/vaccine name(s)**

Lisinopril

## **Primary outcome measure**

Preservation of glomerular filtration rate (GFR) ml/min.

## **Secondary outcome measures**

1. Reduction in proteinuria
2. Sub-group analyses:
  - 2.1 Effects on tubular metabolism of aprotinin (lisinopril limb only)
  - 2.2 Urinary NAG, MCP-1, TGF-Beta
  - 2.3 Plasma markers of oxidative stress
  - 2.4 ACE genotyping

## **Overall study start date**

01/09/2000

## **Completion date**

30/09/2006

# **Eligibility**

## **Key inclusion criteria**

1. Biopsy proven CAN at least 6 months post kidney transplantation - both cadaveric and live-related. Each biopsy will be independently examined and the severity graded by an experienced pathologist
2. Not on ACE-inhibitor (or angiotensin II antagonists) treatment
3. Patients may be on any combination of immunosuppressive therapy. However, those who have been converted to tacrolimus or mycophenolate mofetil after diagnosis of CAN within 6 months are excluded
4. Proteinuria of more than 1.0 g/24 hours
5. Mean creatinine clearance >20 ml/min
6. No history of a transient ischaemic or cardiovascular event or malignancy in the last 6 months
7. Patients aged between 18-70 years

## **Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Upper age limit**

70 Years

**Sex**

Both

**Target number of participants**

42

**Key exclusion criteria**

1. Patients with clinical or histological evidence or acute rejection in the last 3 months
2. Patients with evidence of renal artery stenosis
3. Persistently high cyclosporin or tacrolimus levels
4. Abnormal liver function tests
5. Pregnant or ineffective contraception
6. Chronic intractable cough

**Date of first enrolment**

01/09/2000

**Date of final enrolment**

30/09/2006

## **Locations**

**Countries of recruitment**

England

United Kingdom

**Study participating centre**

School of Clinical Science

Liverpool

United Kingdom

L69 3GA

## **Sponsor information**

## Organisation

Royal Liverpool and Broad Green University Hospitals NHS Trust (UK)

## Sponsor details

Prescot Street  
Liverpool  
England  
United Kingdom  
L7 8XP  
+44 (0)151 706 2000  
Jacqui.Pirmohamed@rlbuht.nhs.uk

## Sponsor type

Hospital/treatment centre

## Website

<http://www.rlbuht.nhs.uk>

## ROR

<https://ror.org/009sa0g06>

## Funder(s)

### Funder type

University/education

### Funder Name

Mersey Kidney Research (Ref No: R1975/1) (UK)

## Results and Publications

### Publication and dissemination plan

Not provided at time of registration

### Intention to publish date

### Individual participant data (IPD) sharing plan

### IPD sharing plan summary

Not provided at time of registration

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	15/01/2010		Yes	No

