

# Renoprotective effects of ursodeoxycholic acid

<b>Submission date</b> 09/01/2017	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 26/01/2017	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 11/05/2021	<b>Condition category</b> Urological and Genital Diseases	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Diabetes mellitus is a long-term condition where a person is unable to control their blood sugar levels. There are two main types of diabetes, type 1 (around 10% of cases) and type 2. In type 1 diabetes (T1DM) the immune system attacks specialised cells in the pancreas which are responsible for producing the hormone insulin (which is responsible for converting sugar in the blood to stored sugar). T1DM sufferers have a high risk of developing complications from their diabetes. Around 30-40% of diabetic patients develop kidney disease. Eventually, the kidneys are no longer able to support the body's needs (kidney failure) and so a treatment to replace the work of the failed kidneys is needed, such as dialysis (where the blood is cleaned by a machine) or transplantation of a healthy kidney. As kidney disease progresses, a protein called albumin leaks into the urine (macroalbuminuria), which affects the kidney's ability to filter the blood. Drug treatments that are now routinely used and proven to prevent kidney failure were first evaluated in patients with T1DM and macroalbuminuria. These drugs all demonstrated early reductions in macroalbuminuria which helped delay the onset of kidney failure. However these drugs do not work for everyone and so patients with T1DM and macroalbuminuria remain at high risk of kidney failure. Ursodeoxycholic acid is a chemical found in bile which is produced by the liver to help dissolve fats. It is currently approved for clinical use and treatment of gall stones and liver disease. In laboratory and animal studies Ursodeoxycholic acid reduces albuminuria and prevents the progression of kidney damage. The aim of this study is to find out whether treatment with Ursodeoxycholic acid can help protect the kidneys in T1DM patients with macroalbuminuria.

### Who can participate?

T1DM patients aged between 20 and 75 who have macroalbuminuria.

### What does the study involve?

Participants are randomly allocated to receive two treatments in a random order with a four week no-treatment period between the two treatments. The first treatment involves taking Ursodeoxycholic acid every day for 24 weeks and the second treatment involves taking a placebo (dummy drug) everyday for 24 weeks. At the start and end of each 24 week period, participants have a urine sample taken to measure the protein present and a blood sample to test their liver function. In addition they have an ECG test (heart rhythm monitoring test) to check their heart function.

What are the possible benefits and risks of participating?

There is no guarantee of any direct medical benefit from participating in this study. This study will be part of an effort to collect more information about a drug that may provide potential benefit to others in the future. Risks of participation in the study include potential side effects from the study drug itself, such as soft, loose stools and diarrhoea, rash, or hardening of gallstones due to build-up of calcium. There is also a risk of pain or bruising from blood tests or skin irritation from electrodes (sticky conductive pads) used in heart rhythm monitoring.

Where is the study run from?

Diabetes Unit, Guy's Hospital (UK)

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

June 2015 to May 2022 (updated 10/05/2021, previously: May 2021)

Who is funding the study?

National Institute for Health Research (UK)

Who is the main contact?

Mrs Olanike Okolo, Lead Clinical Research Nurse

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## Contact information

### Type(s)

Public

### Contact name

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## **Additional identifiers**

### **Clinical Trials Information System (CTIS)**

2015-003609-41

### **Integrated Research Application System (IRAS)**

147826

### **Protocol serial number**

31972, IRAS 147826

## **Study information**

### **Scientific Title**

The renoprotective effects of Ursodeoxycholic acid in patients with type 1 diabetes and macroalbuminuria

### **Acronym**

UREDIA

### **Study objectives**

The aim of this study is to evaluate if Ursodeoxycholic acid reduces albuminuria in patients with type 1 diabetes mellitus (T1DM) with residual macroalbuminuria despite established standard care.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

London - Bloomsbury Research Ethics Committee, 19/04/2016, ref: 15/LO/1951

### **Study design**

Randomised; Interventional; Design type: Treatment, Drug

### **Primary study design**

Intentional

### **Study type(s)**

Treatment

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

Specialty: Diabetes, Primary sub-specialty: Both; UKCRC code/ Disease: Renal and Urogenital/  
Renal failure

## Interventions

Participants are randomly allocated to receive two treatments in a random order, with a 4 week wash out period of no treatment between.

Treatment one: Participants receive Ursodeoxycholic acid (500mg bid) for 24 weeks.

Treatment two: Participants receive a placebo for 24 weeks.

The total duration of participation for both treatment arms lasts for approximately 54 weeks and includes 7 visits to the study centre at Guy's Hospital London.

## Intervention Type

Other

## Primary outcome(s)

Albumin excretion rate (AER) is measured using a standard laboratory test on three non-consecutive timed overnight urine specimens collected one week prior to visit at baseline and 24 weeks for each treatment period.

## Key secondary outcome(s)

1. Brachial blood pressure is measured using an automated sphygmomanometer at baseline and 24 weeks
2. Central aortic blood pressure and Ao-PWV are measured using applanation tonometry... at baseline and 24 weeks
3. Glycated haemoglobin (HbA1c) is measured using blood test at baseline and 24 weeks
4. Plasma albumin is measured using blood test at baseline and 24 weeks
5. Liver function is measured using blood test at baseline and 24 weeks
6. Urine electrolytes are measured using urine test at baseline and 24 weeks
7. Endothelial and renal markers are measured using blood tests and flow mediated dilation at baseline and 24 weeks

## Completion date

31/05/2023

## Eligibility

### Key inclusion criteria

1. T1DM patients aged 20 to 75 years, with residual macroalbuminuria
2. Estimated GFR  $\geq 3$  ml/min
3. Written informed consent to participate in the study prior to any study procedures
4. Ability to communicate and comply with all study procedures

### Participant type(s)

Patient

### Healthy volunteers allowed

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

1. History of intolerance to Ursodeoxycholic acid
2. Active gastrointestinal disease (such as gall stones, inflammatory bowel disease, primary sclerosing cholangitis)
3. Non-diabetic renal disease
4. Absence of diabetic retinopathy
5. Pregnancy or lactation (female participants)
6. Insufficient understanding of the trial

**Date of first enrolment**

12/01/2016

**Date of final enrolment**

31/05/2022

**Locations****Countries of recruitment**

United Kingdom

England

**Study participating centre**

**Guy's Hospital**

Diabetes Unit

Great Maze Pond

London

United Kingdom

SE1 9RT

**Sponsor information****Organisation**

King's College London and Guy's and St Thomas' NHS Foundation Trust

**Organisation**

Guy's and St Thomas's NHS Foundation Trust

# Funder(s)

## Funder type

Government

## Funder Name

National Institute for Health Research

## Alternative Name(s)

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

## Funding Body Type

Government organisation

## Funding Body Subtype

National government

## Location

United Kingdom

# 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?
<a href="#">HRA research summary</a>			28/06/2023	No	No