



## Clinical trial results:

### Effect of active vitamin-D treatment on left ventricular hypertrophy in patients with type-2 diabetes and stage-3 chronic kidney disease.

#### Summary

EudraCT number	2011-003025-10
Trial protocol	GB
Global end of trial date	22 April 2020

#### Results information

Result version number	v1 (current)
This version publication date	30 April 2025
First version publication date	30 April 2025
Summary attachment (see zip file)	VIVID Report (VIVID STUDY REPORT v1.1 date 29 Aug 2023.docx)

#### Trial information

##### Trial identification

Sponsor protocol code	VIVID
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##### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-

Notes:

#### Sponsors

Sponsor organisation name	King's College London
Sponsor organisation address	The Strand, London, United Kingdom, WC2R 2LS
Public contact	Dr Luigi Gnudi, King's College London, +44 02078484413, luigi.gnudi@kcl.ac.uk
Scientific contact	Dr Luigi Gnudi, King's College London, +44 02078484413, luigi.gnudi@kcl.ac.uk
Sponsor organisation name	Guy's and St Thomas' NHS Foundation Trust
Sponsor organisation address	The Strand, London, United Kingdom, WC2R 2LS
Public contact	Dr Luigi Gnudi, Guy's and St Thomas NHS Foundation Trust, +44 02078484413, luigi.gnudi@kcl.ac.uk
Scientific contact	Dr Luigi Gnudi, Guy's and St Thomas NHS Foundation Trust, +44 02078484413, luigi.gnudi@kcl.ac.uk

Notes:

#### Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

## Results analysis stage

Analysis stage	Final
Date of interim/final analysis	08 July 2020
Is this the analysis of the primary completion data?	Yes
Primary completion date	22 April 2020
Global end of trial reached?	Yes
Global end of trial date	22 April 2020
Was the trial ended prematurely?	No

Notes:

## General information about the trial

Main objective of the trial:

The main research question is to evaluate the effect of Calcitriol treatment as compared to placebo on left ventricular mass in patients with type 2 diabetes, left ventricular hypertrophy and chronic kidney disease. Left ventricular hypertrophy is a marker and predictor of cardiovascular disease risk. Left ventricular mass will be assessed by magnetic resonance imaging. Interventions that reduce left ventricular hypertrophy may prevent cardiovascular disease.

Currently it is not known if treatment with Calcitriol can affect left ventricular mass in patients with diabetes, left ventricular hypertrophy and kidney disease. We wish to study the effect of Calcitriol or placebo as add on treatment to existing medical treatments on left ventricular mass in a placebo controlled double blind study. Patients will continue with other medical treatments for their diabetes and kidney disease.

Protection of trial subjects:

Every patient has the right to discontinue study participation, and any patient could be discontinued from the study for any reason beneficial to his/her well-being. If a patient is lost to follow-up, every possible effort will be made to contact the patient to obtain visit information and the unused study drug. As per good clinical practice, alternative therapy will be offered to all patients who discontinued prematurely from the study. If discontinuation was due to significant adverse events, the patient will be followed by the investigator or his/her designee to satisfactory conclusion.

Patients discontinued after randomization due to clinically significant abnormalities in laboratory values will be followed until the abnormality resolved, or abnormality judged to be permanent.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	18 September 2012
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

## Population of trial subjects

### Subjects enrolled per country

Country: Number of subjects enrolled	United Kingdom: 55
Worldwide total number of subjects	55
EEA total number of subjects	55

Notes:

**Subjects enrolled per age group**

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	18
From 65 to 84 years	37
85 years and over	0

## Subject disposition

### Recruitment

Recruitment details: -

### Pre-assignment

Screening details: -

### Pre-assignment period milestones

Number of subjects started	71 <sup>[1]</sup>
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Number of subjects completed	45
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### Pre-assignment subject non-completion reasons

Reason: Number of subjects	Adverse event, serious fatal: 1
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Reason: Number of subjects	Protocol deviation: 2
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Reason: Number of subjects	screen failure: 16
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Reason: Number of subjects	lost to follow up: 7
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Notes:

[1] - The number of subjects reported to have started the pre-assignment period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.

Justification: We do not count screened participants as enrolled.

### Period 1

Period 1 title	Overall Trial (overall period)
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Is this the baseline period?	Yes
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Allocation method	Randomised - controlled
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Blinding used	Double blind
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Roles blinded	Investigator, Subject
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### Arms

Are arms mutually exclusive?	Yes
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<b>Arm title</b>	Calcitriol
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Arm description: -

Arm type	Experimental
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Investigational medicinal product name	Calcitriol
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Investigational medicinal product code	
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Other name	Rocaltrol
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Pharmaceutical forms	Capsule
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Routes of administration	Oral use
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Dosage and administration details:

0.5 mcg once daily of calcitriol for 48 weeks.

<b>Arm title</b>	Placebo
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Arm description: -

Arm type	Placebo
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Investigational medicinal product name	Placebo
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Investigational medicinal product code	
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Other name	
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Pharmaceutical forms	Capsule
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Routes of administration	Oral use
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Dosage and administration details:

Gelatin Capsule filled with Mycrocrystalline cellulose and magnesium stearate.

Once daily for 48 weeks.

Number of subjects in period 1 <sup>[2]</sup>	Calcitriol	Placebo
Started	19	26
Completed	19	26

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Notes:

[2] - The number of subjects reported to be in the baseline period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.

Justification: We do not count screened participants as enrolled.

## Baseline characteristics

### Reporting groups

Reporting group title	Calcitriol
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

Reporting group values	Calcitriol	Placebo	Total
Number of subjects	19	26	45
Age categorical Units: Subjects			
In utero			0
Preterm newborn infants (gestational age < 37 wks)			0
Newborns (0-27 days)			0
Infants and toddlers (28 days-23 months)			0
Children (2-11 years)			0
Adolescents (12-17 years)			0
Adults (18-64 years)			0
From 65-84 years			0
85 years and over			0
Age continuous Units: years			
arithmetic mean	70.32	64.31	
standard deviation	± 8.3	± 9.8	-
Gender categorical Units: Subjects			
Female	5	7	12
Male	14	19	33

## End points

### End points reporting groups

Reporting group title	Calcitriol
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

### Primary: LVMI

End point title	LVMI <sup>[1]</sup>
End point description:	

End point type	Primary
End point timeframe:	
Baseline to visit 11 (week 48)	

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: Please see uploaded report

End point values	Calcitriol	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	19	26		
Units: g/m2				
arithmetic mean (standard deviation)				
baseline	45.42 (± 11.64)	48.14 (± 14.16)		
visit 11	44.86 (± 11.48)	48.85 (± 11.63)		

### Statistical analyses

No statistical analyses for this end point

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

Baseline to week 48

Assessment type	Non-systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	23
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### Reporting groups

Reporting group title	Placebo
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Reporting group description: -

Reporting group title	Calcitriol
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Reporting group description: -

Serious adverse events	Placebo	Calcitriol	
Total subjects affected by serious adverse events			
subjects affected / exposed	7 / 26 (26.92%)	5 / 19 (26.32%)	
number of deaths (all causes)	0	1	
number of deaths resulting from adverse events	0	1	
Injury, poisoning and procedural complications			
Fall - Acute Kidney Injury			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
UTI - Acute Kidney Injury			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Fall secondary to chronic leg pain			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Heart Failure			



subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac Arrest			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 1	
NSTEMI			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ischaemic Heart Disease			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Decompensated Heart Failure			
subjects affected / exposed	2 / 26 (7.69%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Congestive heart failure with acute exacerbation			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac Failure			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Syncope			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Stroke			

subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Nausea, feeling unwell			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			
Shortness of Breath			
subjects affected / exposed	2 / 26 (7.69%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 4	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
Rhabdomyolysis			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Community Acquired Pneumonia - Gout			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Sepsis			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pyelonephritis			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
CAP and COPD			

subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Urinary Tract Infection			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cellulitis			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and Soft Tissue Infection			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
Diabetic Ketoacidosis			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hyperkalaemia			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Fluid Overload			
subjects affected / exposed	2 / 26 (7.69%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hyponatraemia			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Fluid Overload and Haemolysis			

subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 0 %

<b>Non-serious adverse events</b>	Placebo	Calcitriol	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	19 / 26 (73.08%)	17 / 19 (89.47%)	
Vascular disorders			
Deep Vein Thrombosis			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Hypotension			
subjects affected / exposed	1 / 26 (3.85%)	2 / 19 (10.53%)	
occurrences (all)	1	2	
Surgical and medical procedures			
Left big toe surgery			
subjects affected / exposed	1 / 26 (3.85%)	1 / 19 (5.26%)	
occurrences (all)	1	1	
Left knee replacement			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Right eye cataract surgery			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Vitrectomy			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
General disorders and administration site conditions			
Aspecific pain to legs and arms			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Bilateral pretibial oedema			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	

Chest Pain			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Flu-like symptoms			
subjects affected / exposed	2 / 26 (7.69%)	2 / 19 (10.53%)	
occurrences (all)	2	2	
Intermittent Chest Pain			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Left calf swelling			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Lower limb oedema			
subjects affected / exposed	1 / 26 (3.85%)	1 / 19 (5.26%)	
occurrences (all)	1	1	
Progressively worsening pitting oedema left calf			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Tiredness			
subjects affected / exposed	1 / 26 (3.85%)	1 / 19 (5.26%)	
occurrences (all)	1	1	
Immune system disorders			
Hay Fever			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Respiratory, thoracic and mediastinal disorders			
Breathlessness (SOB)			
subjects affected / exposed	4 / 26 (15.38%)	1 / 19 (5.26%)	
occurrences (all)	4	1	
Nasal Congestion			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Psychiatric disorders			
Low Mood			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	

Psychiatric Disorder subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Sleeplessness subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 2	
Injury, poisoning and procedural complications Fall subjects affected / exposed occurrences (all)	5 / 26 (19.23%) 5	1 / 19 (5.26%) 1	
First Degree burn left hand subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Inflamed first right toe subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Left Ankle sprain subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Left fifth finger fracture subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Trauma to left hand subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Cardiac disorders Heart Failure subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Nervous system disorders Aphasic Episodes subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Intermittent Headaches subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	

Neuropathic pain subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Prickly sensation to hands and feet subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Syncope subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	2 / 19 (10.53%) 2	
Changed taste subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 2	
Blood and lymphatic system disorders Anaemia subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Ear and labyrinth disorders Vertigo subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Eye disorders Bilateral cataracts subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
itchy, sore watery eyes subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Right vitreous haemorrhage subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Gastrointestinal disorders Abdominal Pain subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Constipation subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	

Diarrhoea			
subjects affected / exposed	0 / 26 (0.00%)	2 / 19 (10.53%)	
occurrences (all)	0	3	
Episode of right upper quadrant abdominal pain			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Skin and subcutaneous tissue disorders			
Cutaneous aspecific eruption			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Diabetic Foot Ulcer			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Eczema patches to left leg and arm			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Dry Skin Face			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Itchiness			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Rash on Legs			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Right foot heel ulcer			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Sweating			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Upper back sebaceous cyst			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Renal and urinary disorders			



Raised urea, renal impairment subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Renal function decline subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Stinging pain after urination subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Musculoskeletal and connective tissue disorders			
Arthritis subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Hand osteoarthritis subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Back Pain/ Sciatica subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Frozen shoulder subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
Left shoulder pain subjects affected / exposed occurrences (all)	1 / 26 (3.85%) 1	0 / 19 (0.00%) 0	
MSK Pain (Ankle) subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
MSK pain subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Neck Pain subjects affected / exposed occurrences (all)	0 / 26 (0.00%) 0	1 / 19 (5.26%) 1	
Pain in left first finger			

subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Pain in right lower rib cage			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Right ankle swelling			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Right leg pain on walking			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Swollen Joint			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Tightness to both arms and legs			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Hand Arthritis (Hand)			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Infections and infestations			
Candidiasis of the oesophagus			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Cellulitis			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Chest Infection			
subjects affected / exposed	2 / 26 (7.69%)	0 / 19 (0.00%)	
occurrences (all)	2	0	
Cold Symptoms			
subjects affected / exposed	0 / 26 (0.00%)	2 / 19 (10.53%)	
occurrences (all)	0	2	
Diabetic Foot Infection			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	

Genital Thrush		
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)
occurrences (all)	1	0
Gum Infection		
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)
occurrences (all)	1	0
Inflammation of right urinary tract with pain		
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)
occurrences (all)	0	1
Left Leg Cellulitis		
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)
occurrences (all)	0	1
Lower Respiratory Tract Infection		
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)
occurrences (all)	0	1
Respiratory Tract Infection		
subjects affected / exposed	1 / 26 (3.85%)	2 / 19 (10.53%)
occurrences (all)	1	2
Sepsis		
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)
occurrences (all)	1	0
Soft tissue infection		
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)
occurrences (all)	1	0
Tonsillitis		
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)
occurrences (all)	0	1
Tooth abscess		
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)
occurrences (all)	0	1
Upper airway (respiratory tract) infection		
subjects affected / exposed	3 / 26 (11.54%)	5 / 19 (26.32%)
occurrences (all)	3	6
Urinary Tract Infection		

subjects affected / exposed	3 / 26 (11.54%)	1 / 19 (5.26%)	
occurrences (all)	3	2	
Urosepsis			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Metabolism and nutrition disorders			
Osteoarthritis knees			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Osteoarthritis knee			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Diabetic Ketoacidosis			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	
Episodes of Hypoglycaemia			
subjects affected / exposed	1 / 26 (3.85%)	1 / 19 (5.26%)	
occurrences (all)	1	1	
Fluid Overload			
subjects affected / exposed	2 / 26 (7.69%)	0 / 19 (0.00%)	
occurrences (all)	2	0	
Gout			
subjects affected / exposed	1 / 26 (3.85%)	0 / 19 (0.00%)	
occurrences (all)	1	0	
Hypercalcaemia			
subjects affected / exposed	1 / 26 (3.85%)	3 / 19 (15.79%)	
occurrences (all)	1	3	
Hypoglycaemia			
subjects affected / exposed	0 / 26 (0.00%)	1 / 19 (5.26%)	
occurrences (all)	0	1	

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
24 February 2012	Protocol Version 2.0 IMP Labeling
14 November 2013	Protocol version 4 - updated inclusion criteria
10 June 2014	Protocol version 5.0  1. The addition of a sub study to investigate new exploratory endpoints; patients who consent to the sub-study will attend St. George's Hospital for two additional study visits.  2. Inclusion criteria has been amended to include: A history of elevated urinary albumin excretion rate, patient compliance will be recorded at visit seven and eight, and minor typographical errors.
31 March 2015	Protocol Version 6.0
28 February 2018	Protocol Version 8.0
27 June 2019	RSI SmPC Rocaltrol 0.5/0.25mcg capsules update

Notes:

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### Interruptions (globally)

Were there any global interruptions to the trial? No

### Limitations and caveats

None reported

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### Online references

<http://www.ncbi.nlm.nih.gov/pubmed/36934979>