



## Clinical trial results:

### The effect of Pioglitazone on vascular and ventricular function in people with type 2 diabetes PICCOLA

#### Summary

EudraCT number	2007-001222-27
Trial protocol	GB
Global end of trial date	01 April 2010

#### Results information

Result version number	v1 (current)
This version publication date	31 January 2020
First version publication date	31 January 2020

#### Trial information

##### Trial identification

Sponsor protocol code	EU-IIT-006
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##### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT00485056
WHO universal trial number (UTN)	-

Notes:

#### Sponsors

Sponsor organisation name	Imperial College London
Sponsor organisation address	South Kensington Campus, London, United Kingdom, SW7 2AZ
Public contact	Alun D Hughes, Imperial College London, a.hughes@imperial.ac.uk
Scientific contact	Alun D Hughes, Imperial College London, a.hughes@imperial.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:

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**Results analysis stage**

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Analysis stage	Final
Date of interim/final analysis	01 April 2011
Is this the analysis of the primary completion data?	Yes
Primary completion date	01 April 2010
Global end of trial reached?	Yes
Global end of trial date	01 April 2010
Was the trial ended prematurely?	No

Notes:

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**General information about the trial**

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Main objective of the trial:

This study aims to use a novel, sensitive, non-invasive scanning technique to investigate the effects of insulin-sensitizing agent pioglitazone, on heart and artery function.

Protection of trial subjects:

None

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 April 2008
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

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**Population of trial subjects**

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**Subjects enrolled per country**

Country: Number of subjects enrolled	United Kingdom: 24
Worldwide total number of subjects	24
EEA total number of subjects	24

Notes:

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**Subjects enrolled per age group**

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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)	22
From 65 to 84 years	2
85 years and over	0

## Subject disposition

### Recruitment

Recruitment details:

Patients with type 2 diabetes, whose diabetes was not controlled (HbA1c>7.5%) on metformin and/or sulfonylurea, were recruited from General Practices in North West London, UK between 2008 and 2010.

### Pre-assignment

Screening details:

A total of 36 individuals were screened; of these 24 eligible participants were randomized to receive pioglitazone (45 mg/day) or placebo for 12 weeks, followed by 2 weeks washout and then crossed-over onto the alternative treatment.

### Period 1

Period 1 title	First intervention
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

### Arms

Are arms mutually exclusive?	No
<b>Arm title</b>	Pioglitazone

Arm description:

Participants received Pioglitazone for 12 weeks

Arm type	Experimental
Investigational medicinal product name	Pioglitazone
Investigational medicinal product code	
Other name	Actos
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

45mg/ day for 12 weeks

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

Participants received placebo for 12 weeks

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	Actos
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

12 weeks

Number of subjects in period 1	Pioglitazone	Placebo
Started	12	12
Completed	11	10
Not completed	1	2
Consent withdrawn by subject	1	2

## Period 2

Period 2 title	Second intervention
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

## Arms

Are arms mutually exclusive?	No
<b>Arm title</b>	Pioglitazone

Arm description:

Participants crossed-over to receive Pioglitazone for 12 weeks

Arm type	Experimental
Investigational medicinal product name	Pioglitazone
Investigational medicinal product code	
Other name	Actos
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

45mg/ day for 12 weeks

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

Participants crossed-over to receive placebo for 12 weeks

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	Actos
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

12 weeks

<b>Number of subjects in period 2</b>	Pioglitazone	Placebo
Started	11	10
Completed	11	10

## Baseline characteristics

### Reporting groups

Reporting group title	First intervention
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Reporting group description: -

Reporting group values	First intervention	Total	
Number of subjects	24	24	
Age categorical			
Units: Subjects			
Age 18-69	24	24	
Age continuous			
Units: years			
arithmetic mean	59.5		
standard deviation	± 11	-	
Gender categorical			
Units: Subjects			
Female	7	7	
Male	17	17	

## End points

### End points reporting groups

Reporting group title	Pioglitazone
Reporting group description:	
Participants received Pioglitazone for 12 weeks	
Reporting group title	Placebo
Reporting group description:	
Participants received placebo for 12 weeks	
Reporting group title	Pioglitazone
Reporting group description:	
Participants crossed-over to receive Pioglitazone for 12 weeks	
Reporting group title	Placebo
Reporting group description:	
Participants crossed-over to receive placebo for 12 weeks	

### Primary: Changes in e'

End point title	Changes in e' <sup>[1]</sup>
End point description:	
The early velocity of the mitral annulus in diastole (e') measured by tissue Doppler echocardiography	
End point type	Primary
End point timeframe:	
12 weeks	

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: Linear mixed model analyses,  $p = 0.02$

### Statistical analyses

No statistical analyses for this end point

### Secondary: Changes in E/e'

End point title	Changes in E/e'
End point description:	
The ratio of the peak velocity of transmitral blood flow velocity during the early filling phase of left ventricular diastole to the peak mitral annular velocity during the early filling phase of left ventricular diastole measured by Transmitral Doppler flow.	
End point type	Secondary
End point timeframe:	
12 weeks	

## **Statistical analyses**

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No statistical analyses for this end point

## Adverse events

### Adverse events information<sup>[1]</sup>

Timeframe for reporting adverse events:

27 weeks

Assessment type	Non-systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	10
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### Reporting groups

Reporting group title	Pioglitazone
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Reporting group description:

Participants received Pioglitazone for 12 weeks

Reporting group title	Placebo
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Reporting group description:

Participants received placebo for 12 weeks

Serious adverse events	Pioglitazone	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 24 (0.00%)	0 / 24 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	

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

Non-serious adverse events	Pioglitazone	Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 24 (0.00%)	0 / 24 (0.00%)	

Notes:

[1] - There are no non-serious adverse events recorded for these results. It is expected that there will be at least one non-serious adverse event reported.

Justification: No adverse event reported.

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

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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/22525343>