



Clinical trial results:

Pharmacokinetics of ciprofloxacin in pediatric patients, a pilot study – SAFE PEDRUG

Summary

EudraCT number	2014-004638-24
Trial protocol	BE
Global end of trial date	17 March 2017

Results information

Result version number	v1 (current)
This version publication date	03 April 2022
First version publication date	03 April 2022

Trial information

Trial identification

Sponsor protocol code	SafePed01
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02598362
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Ghent University Hospital
Sponsor organisation address	C. Heymanslaan 10, 9000, Belgium, Ghent
Public contact	HIRUZ CTU, Ghent University Hospital, +32 93320500, hiruz.ctu@uzgent.be
Scientific contact	HIRUZ CTU, Ghent University Hospital, +32 93320500, hiruz.ctu@uzgent.be

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	06 September 2018
Is this the analysis of the primary completion data?	Yes
Primary completion date	17 March 2017
Global end of trial reached?	Yes
Global end of trial date	17 March 2017
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Investigating the feasibility of a study method for pharmacokinetics (with emphasis on renal clearance) of ciprofloxacin in children.

Protection of trial subjects:

Ethics review and approval, informed consent, supportive care and routine monitoring.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	28 May 2015
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	Belgium: 23
Worldwide total number of subjects	23
EEA total number of subjects	23

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)	3
Children (2-11 years)	10
Adolescents (12-17 years)	10
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

23 patients were included starting from 28-May-2015. End of trial notification was dated 17-Mar-2018 (last patient last visit) and submitted to EC and CA on 28/08/2018.

Pre-assignment

Screening details:

fUTI group (UZ Brussels): patients aged 3 months-17years with rectal temperature of 38.5°C and significant leucocyturia or a positive urine nitrite test in a sterile urine sample and confirmed by culture. Prophylaxis group (UZ Ghent): patients until age of 17years who use cipro for preventing urinary tract infections.

Period 1

Period 1 title	Overall trial (overall period)
Is this the baseline period?	Yes
Allocation method	Non-randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	fUTI arm (IV arm)

Arm description:

UZ Brussels patients aged 3 months-17years with rectal temperature of 38.5°C and significant leucocyturia or a positive urine nitrite test in a sterile urine sample and confirmed by culture.

Arm type	Experimental
Investigational medicinal product name	Ciprofloxacin
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

15mg/kg twice daily

Arm title	Prophylaxis arm (oral arm)
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Arm description:

UZ Ghent patients until age of 17years who use cipro for preventing urinary tract infections.

Oral administration

Arm type	Active comparator
Investigational medicinal product name	Ciprofloxacin
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for oral suspension
Routes of administration	Oral use

Dosage and administration details:

Normal dose (usual 10mg/kg daily)

Number of subjects in period 1	fUTI arm (IV arm)	Profylaxis arm (oral arm)
Started	10	13
Completed	10	13

Baseline characteristics

Reporting groups

Reporting group title	fUTI arm (IV arm)
Reporting group description: UZ Brussels patients aged 3 months-17years with rectal temperature of 38.5°C and significant leucocyturia or a positive urine nitrite test in a sterile urine sample and confirmed by culture.	
Reporting group title	Profylaxis arm (oral arm)
Reporting group description: UZ Ghent patients until age of 17years who use cipro for preventing urinary tract infections. Oral administration	

Reporting group values	fUTI arm (IV arm)	Profylaxis arm (oral arm)	Total
Number of subjects	10	13	23
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			
median	9.86	6.43	
full range (min-max)	0.51 to 15.5	0.31 to 15.4	-
Gender categorical Units: Subjects			
Female	8	6	14
Male	2	7	9
Diagnose Units: Subjects			
Acute pyelonephritis	9	9	18
Cystitis	1	2	3
recurrent lower UTI	0	2	2
Comorbidities Units: Subjects			
CAKUT	3	7	10
Neurogenic bladder	1	0	1
BBD	2	1	3
CAKUT and stone disease	1	1	2
CAKUT and renal insufficiency	0	1	1
CAKUT and BBD	0	1	1
stone disease	0	1	1
None	3	1	4

Urine culture			
Units: Subjects			
Escherichia coli	4	5	9
Pseudomonas aeruginosa	3	4	7
Klebsiella pneumoniae	1	1	2
Proteus strains	0	1	1
No growth	2	2	4
Weight			
Units: kg			
median	26.7	18.3	
full range (min-max)	8.21 to 75.30	6.47 to 106	-
Serum cystatin C			
Units: mg/l			
median	0.71	0.86	
full range (min-max)	0.63 to 0.84	0.61 to 2.88	-
Serum creatinine			
Units: mg/dl			
median	0.49	0.64	
full range (min-max)	0.28 to 0.81	0.38 to 1.54	-
Kidney function			
Units: ml/min/1.73m ²			
median	98.4	65.5	
full range (min-max)	73.7 to 116	6.75 to 84.6	-

End points

End points reporting groups

Reporting group title	fUTI arm (IV arm)
Reporting group description: UZ Brussels patients aged 3 months-17years with rectal temperature of 38.5°C and significant leucocyturia or a positive urine nitrite test in a sterile urine sample and confirmed by culture.	
Reporting group title	Profylaxis arm (oral arm)
Reporting group description: UZ Ghent patients until age of 17years who use cipro for preventing urinary tract infections. Oral administration	
Subject analysis set title	End group
Subject analysis set type	Per protocol
Subject analysis set description: Group created as data are analysed as a one armed trial.	

Primary: ciprofloxacin clearance

End point title	ciprofloxacin clearance ^[1]
End point description:	
End point type	Primary
End point timeframe: From start until end of study	
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: See article	

End point values	End group			
Subject group type	Subject analysis set			
Number of subjects analysed	22			
Units: l/h/kg				
median (full range (min-max))	0.22 (0.16 to 0.43)			

Statistical analyses

No statistical analyses for this end point

Secondary: Volume of distribution

End point title	Volume of distribution
End point description:	
End point type	Secondary
End point timeframe: From start until end of study	

End point values	End group			
Subject group type	Subject analysis set			
Number of subjects analysed				
Units: l/kg				
median (full range (min-max))	0.55 (0.06 to 2.88)			

Statistical analyses

No statistical analyses for this end point

Secondary: Bioavailability

End point title	Bioavailability
End point description:	
End point type	Secondary
End point timeframe:	
From start until end study	

End point values	End group			
Subject group type	Subject analysis set			
Number of subjects analysed				
Units: percentage				
number (not applicable)	59.6			

Statistical analyses

No statistical analyses for this end point

Secondary: absorption

End point title	absorption
End point description:	
End point type	Secondary
End point timeframe:	
From start until end study	

End point values	End group			
Subject group type	Subject analysis set			
Number of subjects analysed				
Units: per hour				
number (not applicable)	0.596			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

Adverse events will be reported between the first dose administration of trial medication and the last trial related activity

Assessment type	Non-systematic
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Dictionary used

Dictionary name	MedDRA
Dictionary version	21.1

Reporting groups

Reporting group title	fUTI arm (IV arm)
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Reporting group description:

UZ Brussels patients aged 3 months-17years with rectal temperature of 38.5°C and significant leucocyturia or a positive urine nitrite test in a sterile urine sample and confirmed by culture.

Reporting group title	Profylaxis arm (oral arm)
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Reporting group description:

UZ Ghent patients until age of 17years who use cipro for preventing urinary tract infections.
Oral administration

Serious adverse events	fUTI arm (IV arm)	Profylaxis arm (oral arm)	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 10 (0.00%)	0 / 13 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events			

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	fUTI arm (IV arm)	Profylaxis arm (oral arm)	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 10 (0.00%)	0 / 13 (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 events have been collected

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

<http://www.ncbi.nlm.nih.gov/pubmed/29987142>