



Clinical trial results: The effect of sparkling water on the systemic pharmacokinetics of paracetamol in elderly Summary

EudraCT number	2022-003248-28
Trial protocol	BE
Global end of trial date	08 December 2023

Results information

Result version number	v1 (current)
This version publication date	27 September 2024
First version publication date	27 September 2024

Trial information

Trial identification

Sponsor protocol code	DDD22WATER
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-
Other trial identifiers	Clinical Trial Center UZ Leuven identifier: S67145

Notes:

Sponsors

Sponsor organisation name	KU Leuven Drug Delivery and Disposition
Sponsor organisation address	Gasthuisberg ON2, Herestraat 49 box 921, Leuven, Belgium, 3000
Public contact	Patrick Augustijns, KU Leuven Drug Delivery and Disposition, +32 16330301, patrick.augustijns@kuleuven.be
Scientific contact	Patrick Augustijns, KU Leuven Drug Delivery and Disposition, +32 16330301, patrick.augustijns@kuleuven.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	19 July 2024
Is this the analysis of the primary completion data?	Yes
Primary completion date	08 December 2023
Global end of trial reached?	Yes
Global end of trial date	08 December 2023
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To assess the effect of sparkling water instead of tap water on the early absorption of paracetamol in older adults, as measured by the systemic AUC₀₋₃₀ min.

Protection of trial subjects:

- Trial only involved intake of a single dose of an authorized oral drug product according to SPC (Dafalgan 500 mg).
- Standard procedures for placement of a venous catheter to sample systemic blood.

Background therapy:

-

Evidence for comparator:

-

Actual start date of recruitment	01 March 2023
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: 14
Worldwide total number of subjects	14
EEA total number of subjects	14

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)	0
From 65 to 84 years	14

Subject disposition

Recruitment

Recruitment details:

Informative flyers were distributed to recruit volunteers in Belgium between March and November 2023.

Pre-assignment

Screening details:

Candidate participants were screened for in- and exclusion criteria.

Inclusion: 70 years or older, no clinically significant abnormalities, written informed consent

Exclusion: history of gastrointestinal disease, hepatic cirrhosis, renal impairment, recent intake of gastric motility-modifying medication

Period 1

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

Arms

Are arms mutually exclusive?	No
Arm title	Still water

Arm description:

Systemic disposition of paracetamol after oral intake of 1 tablet of Dafalgan (paracetamol 500 mg) with 240 mL of still water (Spa Reine).

Arm type	Experimental
Investigational medicinal product name	paracetamol (Dafalgan)
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

Paracetamol (500 mg) was orally administered as 1 tablet of Dafalgan with 240 mL still water.

Arm title	Sparkling water
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Arm description:

Systemic disposition of paracetamol after oral intake of 1 tablet of Dafalgan (paracetamol 500 mg) with 240 mL of sparkling water (Spa Intense).

Arm type	Experimental
Investigational medicinal product name	paracetamol (Dafalgan)
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

Paracetamol (500 mg) was orally administered as 1 tablet of Dafalgan with 240 mL sparkling water.

Number of subjects in period 1	Still water	Sparkling water
Started	14	14
Completed	14	14

Baseline characteristics

Reporting groups

Reporting group title	Overall trial (overall period)
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Reporting group description: -

Reporting group values	Overall trial (overall period)	Total	
Number of subjects	14	14	
Age categorical			
Units: Subjects			
In utero	0	0	
Preterm newborn infants (gestational age < 37 wks)	0	0	
Newborns (0-27 days)	0	0	
Infants and toddlers (28 days-23 months)	0	0	
Children (2-11 years)	0	0	
Adolescents (12-17 years)	0	0	
Adults (18-64 years)	0	0	
From 65-84 years	14	14	
85 years and over	0	0	
Age continuous			
Units: years			
median	72.5		
full range (min-max)	70 to 77	-	
Gender categorical			
Units: Subjects			
Female	8	8	
Male	6	6	

End points

End points reporting groups

Reporting group title	Still water
Reporting group description: Systemic disposition of paracetamol after oral intake of 1 tablet of Dafalgan (paracetamol 500 mg) with 240 mL of still water (Spa Reine).	
Reporting group title	Sparkling water
Reporting group description: Systemic disposition of paracetamol after oral intake of 1 tablet of Dafalgan (paracetamol 500 mg) with 240 mL of sparkling water (Spa Intense).	

Primary: Early exposure to paracetamol: AUC 0-30 min

End point title	Early exposure to paracetamol: AUC 0-30 min
End point description:	
End point type	Primary
End point timeframe: 0-30 min post drug intake	

End point values	Still water	Sparkling water		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14	14		
Units: min* μ M				
geometric mean (geometric coefficient of variation)	526 (\pm 136)	828 (\pm 63.2)		

Statistical analyses

Statistical analysis title	Still vs sparkling: paired t-test
Comparison groups	Still water v Sparkling water
Number of subjects included in analysis	28
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.1263
Method	t-test, 2-sided

Secondary: Overall exposure to paracetamol: AUC 0-inf

End point title	Overall exposure to paracetamol: AUC 0-inf
End point description:	

End point type	Secondary
End point timeframe:	
0 min - infinity post drug intake	

End point values	Still water	Sparkling water		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14	14		
Units: min*µM				
geometric mean (geometric coefficient of variation)	10300 (± 24.6)	10400 (± 25.1)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

From first visit of first subject till last visit of last subject.

Assessment type	Non-systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	23
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Frequency threshold for reporting non-serious adverse events: 5 %

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 happened during the study.

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

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

Since we only conduct exploratory studies in a limited number of volunteers, statistical hypothesis testing is not applicable

Notes:

Online references

<http://www.ncbi.nlm.nih.gov/pubmed/39019296>