Clinical trial results:
Multicenter, randomized, split-mouth study to evaluate the acceptance and preference of lidocaine gel compared to injection anesthesia after non surgical periodontal treatment

Summary

EudraCT number	2016-005202-19
Trial protocol	DE
Global end of trial date	02 November 2018

Results information

Result version number	v1 (current)
This version publication date	20 December 2019
First version publication date	20 December 2019
Summary attachment (see zip file)	Summary (Ergebnisbericht Dynexan Version 1.1_20190906.pdf)

Trial information

Trial identification

Sponsor protocol code	DyMZIS-01

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03354312
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Chemische Fabrik Kreussler & Co. GmbH
Sponsor organisation address	Rheingaustrasse 87-93, Wiesabden, Germany, 65203
Public contact	Med.-Wiss Abteilung, Chemische Fabrik Kreussler & Co. GmbH, +49 6119271126, Joachim.Otto@kreussler.com
Scientific contact	Med.-Wiss Abteilung, Chemische Fabrik Kreussler & Co. GmbH, +49 6119271260, Eva-Katharina.Pauli@kreussler.com

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	20 August 2019
Is this the analysis of the primary completion data?	Yes
Primary completion date	02 November 2018
Global end of trial reached?	Yes
Global end of trial date	02 November 2018
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective is to compare acceptance and preference of topical lidocaine mouth gel anesthesia vs. injection anesthesia with articaine in patients undergoing subgingival debridement by comparing the proportion of patients after the second periodontal treatment who prefer topical anesthesia with lidocaine gel against the injection anesthesia with articaine to a proportion of 0.5; the patient rates the preferred anesthesia method on a questionnaire by stating if the patient's preference is treatment with anesthetic gel, treatment with anesthetic injection, or no preference

Protection of trial subjects:

The present clinical trial was conducted in accordance with the published principles of the guidelines for Good Clinical Practice (ICH-GCP) and applicable legislation (especially the Federal Drug Law [AMG] and the GCP-V). These principles cover, amongst other aspects, ethics committee procedures, the obtaining of informed consent from trial subjects, adherence to the trial protocol, administrative documentation, documentation regarding the IMP, data collection, trial subjects' medical records (source documents), documentation and reporting of adverse events (AEs), preparation for inspections and audits, and the archiving of trial documentation. All investigators and other staff directly concerned with the study were informed that domestic and foreign supervisory bodies, the competent federal authorities and authorized representatives of the sponsor have the right to review trial documentation and the trial subjects' medical records at any time.

Background therapy: -

Evidence for comparator:

Articaine hydrochloride/epinephrine (adrenaline) hydrochchloride (Ultracain® DS 1:200,000, Sanofi) was selected as comparator drug, being the most commonly used anesthetic drug for infiltration and nerve-block anesthesia in Germany at the time the study protocol was developed.

Actual start date of recruitment	05 December 2017
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	Germany: 94
Worldwide total number of subjects	94
EEA total number of subjects	94

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37	0

wk	
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)	85
From 65 to 84 years	9
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

The first patient enrolled on 05.12.2017; the last patient completed the trial on 02.11.2018.

Pre-assignment

Screening details:

In summary 94 subjects were enrolled in the study.

Period 1

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

Arms

Arm title	treatment Dynexan/Ultracain both sequences

Arm description:

Two treatment sessions per subject at intervals of 48 h-14 days. At the first treatment session subjects were randomly assigned to either sequence of anaesthesia (Dynexan Mundgel/Untracain or Ultracain/Dynexan Mundgel). At the first session scaling and root planing (SRP) was performed in the right upper and lower jaw. The second SRP was performed in the left upper and lower jaw.

Arm type	split-mouth, cross-over
Investigational medicinal product name	Ultracain DS®
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Injection
Routes of administration	Infiltration

Dosage and administration details:

Cylinder vials with 1.7 ml solution for injection containing 68 mg articaine and 0.0102 mg epinephrine (1 ml contains 40 mg articaine and 0.006 mg epinephrine) were used.

Investigational medicinal product name	Dynexan Mundgel®
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Gel
Routes of administration	Periodontal use

Dosage and administration details:

Cylinder vials with 1.7 g gel containing 34 mg lidocaine (1 g gel contained 20 mg lidocaine) were used. For the application of the study drug all study sites were supplied with identical dental cartridge syringes and blunt cannulas. Application of the gel into the periodontal pockets or the sulcus was performed with a blunt cannula according to the summary of product characteristics (SmPC). A total dose of 40 mg lidocaine should not be exceeded.

Number of subjects in period 1	treatment Dynexan/Ultracain both sequences
Started	94
Visit 0	94
Visit 1	92

Visit 2	91
Completed	91
Not completed	3
Consent withdrawn by subject	1
Patient stayed away	1
Alleged violation of exclusion criterion	1

Baseline characteristics

Reporting groups	
Reporting group title	Overall Trial

Reporting group description: -

Reporting group values	Overall Trial	Total	
Number of subjects	94	94	
Age categorical			
Overall age range 18-70 years			
Units: Subjects			
Adults (18-64 years)	84	84	
From 65-84 years	10	10	
Gender categorical Units: Subjects			
Female	55	55	
Male	39	39	

End points

End points reporting groups

Reporting group title	treatment Dynexan/Ultracain both sequences

Reporting group description:

Two treatment sessions per subject at intervals of 48 h-14 days. At the first treatment session subjects were randomly assigned to either sequence of anaesthesia (Dynexan Mundgel/Untracain or Ultracain/Dynexan Mundgel). At the first session scaling and root planing (SRP) was performed in the right upper and lower jaw. The second SRP was performed in the left upper and lower jaw.

Primary: Preference

End point title	Preference[1]

End point description:

End point type	Primary

End point timeframe:

Comparison of the proportion of patients who preferred gel anesthesia versus injection anesthesia. Evaluation of this end point was performed after the second treatment session (Visit 2) had been completed and the patient had filled out the questionnaire.

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: The null hypothesis of the study states that the patients prefer the anesthetic gel and the anesthetic injection equally often (pGel = pInjektion = 0.5). Based on the data collected in the study, H0 is rejected. The patients preferred the anesthesia with Dynexan Mundgel.

End point values	treatment Dynexan/Ultracain both sequences			
Subject group type	Reporting group			
Number of subjects analysed	91			
Units: subjects				
No preference	18			
Gel	53			
Injection	20			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Two treatment sessions at intervals of 48 h - 14 days. Duration of each treatment session was one hour. Recording of anesthesia induced adverse effects after Treatment as well as with a Patient diary 4h and 24h after treatment.

Adverse event reporting additional description:

No serious and severe AEs occurred with any treatment. Furthermore, no patients discontinued the study due to AEs.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	21.1

Reporting groups

Reporting group title	Ultracain
Reporting group description: -	
Reporting group title	Dynexan Mundgel

Reporting group description: -

Serious adverse events	Ultracain	Dynexan Mundgel	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 47 (0.00%)	0 / 45 (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: 5 %

Non-serious adverse events	Ultracain	Dynexan Mundgel	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	37 / 47 (78.72%)	21 / 45 (46.67%)	
Vascular disorders			
Hypertension			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
General disorders and administration site conditions			
Application site pain			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Application site swelling			

subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Facial pain			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Fatigue			
subjects affected / exposed	1 / 47 (2.13%)	2 / 45 (4.44%)	
occurrences (all)	1	2	
Feeling jittery			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Influenza like illness			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Injection site pain			
subjects affected / exposed	2 / 47 (4.26%)	0 / 45 (0.00%)	
occurrences (all)	2	0	
Pain			
subjects affected / exposed	1 / 47 (2.13%)	1 / 45 (2.22%)	
occurrences (all)	1	1	
Swelling			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Product issues			
Product taste abnormal			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Investigations			
Body temperature increased			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Injury, poisoning and procedural complications			
Injury			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Procedural pain			

subjects affected / exposed	3 / 47 (6.38%)	3 / 45 (6.67%)	
occurrences (all)	3	3	
Wound complication			
subjects affected / exposed	1 / 47 (2.13%)	1 / 45 (2.22%)	
occurrences (all)	1	1	
Cardiac disorders			
Palpitations			
subjects affected / exposed	1 / 47 (2.13%)	1 / 45 (2.22%)	
occurrences (all)	1	1	
Nervous system disorders			
Ageusia			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Burning sensation			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Dizziness			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Dysgeusia			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Headache			
subjects affected / exposed	7 / 47 (14.89%)	2 / 45 (4.44%)	
occurrences (all)	7	2	
Hypoaesthesia			
subjects affected / exposed	23 / 47 (48.94%)	3 / 45 (6.67%)	
occurrences (all)	23	3	
Migraine			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Movement disorder			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Slow response to stimuli			

subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Speech disorder			
subjects affected / exposed	2 / 47 (4.26%)	0 / 45 (0.00%)	
occurrences (all)	2	0	
Blood and lymphatic system disorders			
Lymphadenopathy			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Ear and labyrinth disorders			
Ear discomfort			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Eye disorders			
Ocular discomfort			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Gastrointestinal disorders			
Dental discomfort			
subjects affected / exposed	1 / 47 (2.13%)	1 / 45 (2.22%)	
occurrences (all)	1	1	
Gingival ulceration			
subjects affected / exposed	0 / 47 (0.00%)	2 / 45 (4.44%)	
occurrences (all)	0	2	
Hypoaesthesia oral			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Nausea			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Oral discomfort			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Sensitivity of teeth			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Tongue discomfort			

subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Toothache			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Skin and subcutaneous tissue disorders			
Erythema			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Hyperhidrosis			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Subcutaneous emphysema			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Musculoskeletal and connective tissue disorders			
Jaw disorder			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Mastication disorder			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Myalgia			
subjects affected / exposed	1 / 47 (2.13%)	0 / 45 (0.00%)	
occurrences (all)	1	0	
Infections and infestations			
Gastroenteritis			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	
Oral herpes			
subjects affected / exposed	0 / 47 (0.00%)	1 / 45 (2.22%)	
occurrences (all)	0	1	

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