# Clinical trial results:
# Single-arm study to assess a potential effect of anti-IL-17 (Secukinumab) in the treatment of pyoderma gangrenosum

## Summary

| | |
|---|---|
| EudraCT number | 2015-000762-65 |
| Trial protocol | DE |
| Global end of trial date | 19 September 2019 |

**Results information**

| | |
|---|---|
| Result version number | v1 (current) |
| This version publication date | 02 October 2020 |
| First version publication date | 02 October 2020 |

## Trial information

**Trial identification**

| | |
|---|---|
| Sponsor protocol code | CAIN457ADE01T |

**Additional study identifiers**

| | |
|---|---|
| ISRCTN number | - |
| ClinicalTrials.gov id (NCT number) | NCT02733094 |
| WHO universal trial number (UTN) | - |

Notes:

**Sponsors**

| | |
|---|---|
| Sponsor organisation name | Technische Universität München, Fakultät für Medizin |
| Sponsor organisation address | Ismaninger Str. 22, München, Germany, 81675 |
| Public contact | Studienzentrum Dermatologie, Department of Dermatology and Allergy Technische Universität München , +49 894140 3579, kilian.eyerich@tum.de |
| Scientific contact | Studienzentrum Dermatologie, Department of Dermatology and Allergy Technische Universität München , +49 894140 3579, kilian.eyerich@tum.de |

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 | 02 September 2020 |
| Is this the analysis of the primary completion data? | Yes |
| Primary completion date | 19 September 2019 |
| Global end of trial reached? | Yes |
| Global end of trial date | 19 September 2019 |
| Was the trial ended prematurely? | No |

Notes:

## General information about the trial

Main objective of the trial:

To evaluate efficacy and tolerability of secukinumab in patients with pyoderma gangrenosum after 16 week treatment with 300 mg s.c. secukinumab.

Protection of trial subjects:

The conduct of this clinical study met all local legal and regulatory requirements. The study was conducted in accordance the ethical principles of Good Clinical Practice (GCP).
Participating subjects signed informed consent form and could withdraw from the study at any time without any disadvantage and without having to provide a reason for this decision.
The study was regularly monitored by the Sponsor and all investigators connected to the study were GCP trained.

Background therapy:

None applied

Evidence for comparator:

n.a.

| | |
|---|---|
| Actual start date of recruitment | 30 May 2016 |
| 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: 8 |
| Worldwide total number of subjects | 8 |
| EEA total number of subjects | 8 |

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) | 7 |

| | |
|---|---|
| From 65 to 84 years | 1 |
| 85 years and over | 0 |

## Subject disposition

### Recruitment

Recruitment details:

The study was conducted in Germany single-centre between 30.05.2016 (first Patient recruited) and 19.09.2019 (last patient completed).

### Pre-assignment

Screening details:

Patients must have all screening evaluations performed prior to the first dose of study drug and must meet all inclusion and none of the exclusion criteria. The patients must be thoroughly informed about all aspects of the study, all evaluations as required per protocol and all regulatory requirements for informed consent.

### Period 1

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

Blinding implementation details:

This is a single-arm not blinded study.

### Arms

| | |
|---|---|
| **Arm title** | CAIN trial |

Arm description:

Single arm study to assess a potential effect of anti IL 17 (Secukinumab) in the treatment of pyoderma gangrenosum.

| | |
|---|---|
| Arm type | Experimental |
| Investigational medicinal product name | Cosentyx |
| Investigational medicinal product code | ATC L04AC10 |
| Other name | Secukinumab |
| Pharmaceutical forms | Solution and suspension for suspension for injection in pre-filled syringe |
| Routes of administration | Subcutaneous use |

Dosage and administration details:

300 mg secukinumab per week 1-4 and subsequently each 4 weeks subcutaneuously over a study period of 16 weeks; follow up until week 40.
300 mg secukinumab per week 1-4 and subsequently each 2 weeks subcutaneuously over a study period of 32 weeks; follow up until week 40. (Amendment)

| **Number of subjects in period 1** | CAIN trial |
|---|---|
| Started | 8 |
| Completed | 2 |
| Not completed | 6 |
| Consent withdrawn by subject | 3 |
| Adverse event, non-fatal | 2 |
| Deterioration of pre-existing health condition | 1 |

## Baseline characteristics

### Reporting groups

| Reporting group title | Overall trial |
|---|---|

Reporting group description: -

| Reporting group values | Overall trial | Total | |
|---|---|---|---|
| Number of subjects | 8 | 8 | |
| Age categorical<br>Units: Subjects | | | |
| Adults (18-64 years) | 7 | 7 | |
| From 65-84 years | 1 | 1 | |
| Age continuous<br>Units: years | | | |
| median | 45.3 | | |
| full range (min-max) | 22 to 70 | - | |
| Gender categorical<br>Units: Subjects | | | |
| Female | 5 | 5 | |
| Male | 3 | 3 | |
| Previous treatment for PG | | | |
| Number of patients receiving treatment for pyoderma gangrenosum prior to inclusion in the study | | | |
| Units: Subjects | | | |
| previous treatment | 8 | 8 | |
| no previous treatment | 0 | 0 | |
| Time between first diagnosis and study begin | | | |
| Duration (in months) between first diagnosis of pyoderma gangrenosum and study begin. | | | |
| Units: months | | | |
| arithmetic mean | 32.3 | | |
| standard deviation | ± 41.7 | - | |

### Subject analysis sets

| Subject analysis set title | ITT |
|---|---|
| Subject analysis set type | Intention-to-treat |

Subject analysis set description:

All patients included in the study except one, who withdrew before receiving study medication.

| Reporting group values | ITT | | |
|---|---|---|---|
| Number of subjects | 7 | | |
| Age categorical<br>Units: Subjects | | | |
| Adults (18-64 years) | 6 | | |
| From 65-84 years | 1 | | |
| Age continuous<br>Units: years | | | |
| median | 39 | | |
| full range (min-max) | 22 to 70 | | |

| | | | |
|---|---|---|---|
| Gender categorical<br>Units: Subjects | | | |
| Female | 4 | | |
| Male | 3 | | |
| Previous treatment for PG | | | |
| Number of patients receiving treatment for pyoderma gangrenosum prior to inclusion in the study | | | |
| Units: Subjects | | | |
| previous treatment | 7 | | |
| no previous treatment | 0 | | |
| Time between first diagnosis and study begin | | | |
| Duration (in months) between first diagnosis of pyoderma gangrenosum and study begin. | | | |
| Units: months | | | |
| arithmetic mean | 33 | | |
| standard deviation | ± 42 | | |

## End points

### End points reporting groups

| | |
|---|---|
| Reporting group title | CAIN trial |

Reporting group description:

Single arm study to assess a potential effect of anti IL 17 (Secukinumab) in the treatment of pyoderma gangrenosum.

| | |
|---|---|
| Subject analysis set title | ITT |
| Subject analysis set type | Intention-to-treat |

Subject analysis set description:

All patients included in the study except one, who withdrew before receiving study medication.

### Primary: Change in PGA

| | |
|---|---|
| End point title | Change in PGA[1] |

End point description:

Change in PGA at week 16 as compared to baseline.
Grade 0: Total resolution of ulcer(s) with no signs of active PG
Grade 1: Almost completely healed uncer(s) with only minimal signs of active PG
Grade 2: Evidence of ulcer healing which involves at least 50% of ulcer/ulcer margin
Grade 3: Evidence of ulcer healing which involves less than 50% of ulcer/ulcer margin
Grade 4: No evicence of ulcer healing

| | |
|---|---|
| End point type | Primary |

End point timeframe:

16 weeks from baseline

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: Only descriptive statistics were planned for this single arm study.

| End point values | ITT | | | |
|---|---|---|---|---|
| Subject group type | Subject analysis set | | | |
| Number of subjects analysed | 7 | | | |
| Units: Patients | | | | |
| Grade 0 | 0 | | | |
| Grade 1 | 0 | | | |
| Grade 2 | 2 | | | |
| Grade 3 | 1 | | | |
| Grade 4 | 1 | | | |
| Missing | 3 | | | |

### Statistical analyses

No statistical analyses for this end point

### Primary: Change in PGA (LOCF)

| | |
|---|---|
| End point title | Change in PGA (LOCF)[2] |

End point description:

Sensitivity analysis of the primary endpoint using LOCF imputation for the three missing values at week 16.

| | |
|---|---|
| End point type | Primary |

End point timeframe:

16 wochen from baseline

Notes:

[2] - 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: Only descriptive statistics were planned for this single arm study.

| **End point values** | ITT | | | |
|---|---|---|---|---|
| Subject group type | Subject analysis set | | | |
| Number of subjects analysed | 7 | | | |
| Units: Patients | | | | |
| Grade 0 | 0 | | | |
| Grade 1 | 0 | | | |
| Grade 2 | 4 | | | |
| Grade 3 | 1 | | | |
| Grade 4 | 2 | | | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Change in surface area of PG at week 16

| End point title | Change in surface area of PG at week 16 |
|---|---|

End point description:

Change in surface area of PG lesions at week 16 as compared to week 0.

| End point type | Secondary |
|---|---|

End point timeframe:

At week 16

| **End point values** | ITT | | | |
|---|---|---|---|---|
| Subject group type | Subject analysis set | | | |
| Number of subjects analysed | 7 | | | |
| Units: mm² | | | | |
| arithmetic mean (standard deviation) | -22.76 (± 1010.61) | | | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Change in QoL

| End point title | Change in QoL |
|---|---|

End point description:

Change in patient's quality of life from week 0 to week 16.

| End point type | Secondary |
|---|---|

End point timeframe:

16 weeks

| **End point values** | ITT | | | |
|---|---|---|---|---|
| Subject group type | Subject analysis set | | | |
| Number of subjects analysed | 7 | | | |
| Units: points | | | | |
| arithmetic mean (standard deviation) | -5.25 (± 7.25) | | | |

## Statistical analyses

No statistical analyses for this end point

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

AEs and SAEs were documented in the timeframe from signed informed consent till the end of the follow-up period (week 40).

| | |
|---|---|
| Assessment type | Systematic |

### Dictionary used

| | |
|---|---|
| Dictionary name | MedDRA |
| Dictionary version | 20.0 |

### Reporting groups

| | |
|---|---|
| Reporting group title | Overall study |

Reporting group description:

The safety set consisted of all patients who entered the trial and was used for conducting all safety analyses.

| **Serious adverse events** | Overall study | | |
|---|---|---|---|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 2 / 8 (25.00%) | | |
| number of deaths (all causes) | 0 | | |
| number of deaths resulting from adverse events | 0 | | |
| General disorders and administration site conditions | | | |
| Pain | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences causally related to treatment / all | 0 / 1 | | |
| deaths causally related to treatment / all | 0 / 0 | | |
| Infections and infestations | | | |
| Pyoderma | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences causally related to treatment / all | 0 / 1 | | |
| deaths causally related to treatment / all | 0 / 0 | | |

Frequency threshold for reporting non-serious adverse events: 1 %

| **Non-serious adverse events** | Overall study | | |
|---|---|---|---|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 6 / 8 (75.00%) | | |

| | | | |
|---|---|---|---|
| Nervous system disorders | | | |
| Dysaesthesia | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences (all) | 1 | | |
| General disorders and administration site conditions | | | |
| Fatigue | | | |
| subjects affected / exposed | 2 / 8 (25.00%) | | |
| occurrences (all) | 2 | | |
| Pyrexia | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences (all) | 1 | | |
| Gastrointestinal disorders | | | |
| Aphthous ulcer | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences (all) | 1 | | |
| Skin and subcutaneous tissue disorders | | | |
| Pain of skin | | | |
| subjects affected / exposed | 4 / 8 (50.00%) | | |
| occurrences (all) | 4 | | |
| Pruritus | Additional description: Pruritus generalised | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences (all) | 1 | | |
| Skin ulcer | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences (all) | 1 | | |
| Infections and infestations | | | |
| Ulcer | | | |
| subjects affected / exposed | 1 / 8 (12.50%) | | |
| occurrences (all) | 1 | | |
| Acarodermatitis | | | |
| subjects affected / exposed | 3 / 8 (37.50%) | | |
| occurrences (all) | 3 | | |
| Urinary tract infection | | | |
| subjects affected / exposed | 2 / 8 (25.00%) | | |
| occurrences (all) | 2 | | |
| Viral upper respiratory tract infection | | | |

| | | | |
|---|---|---|---|
| subjects affected / exposed<br>occurrences (all) | 3 / 8 (37.50%)<br>3 | | |

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

| Date | Amendment |
|---|---|
| 30 May 2017 | After weekly administration of lnvestigational Medicinal Product (IMP) until week 4 (five injections), IMP tobe administered for 32 weeks every two weeks (14 injections) [instead of administration for 16 weeks every four weeks (3 injections)], secondary endpoints (and physician's global assessment (Grade 0 - 4) of the target lesion) should also be assessed at week 32; follow-up (FU). |

Notes:

### Interruptions (globally)

Were there any global interruptions to the trial? No

### Limitations and caveats

None reported