



Clinical trial results:

Influence of pulsatile dexamethasone therapy in childhood epilepsy on the immune System.

Einflüsse der pulsatilen Dexamethason-Therapie auf das Immunsystem bei der Behandlung kindlicher Epilepsien

Summary

| | |
|--------------------------|----------------|
| EudraCT number | 2016-002658-19 |
| Trial protocol | AT |
| Global end of trial date | 17 August 2021 |

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 | 20016-01 |
|-----------------------|----------|

Additional study identifiers

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

Notes:

Sponsors

| | |
|------------------------------|--|
| Sponsor organisation name | Medical University Innsbruck |
| Sponsor organisation address | Innrain 52, Innsbruck, Austria, 6020 |
| Public contact | Department of Pediatrics I, Department of Pediatrics I, Medical University of Innsbruck, +43 51250423501, kks-regulatory@i-med.ac.at |
| Scientific contact | Department of Pediatrics I, Department of Pediatrics I, Medical University of Innsbruck, +43 51250423501, kks-regulatory@i-med.ac.at |

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 | 08 November 2021 |
| Is this the analysis of the primary completion data? | Yes |
| Primary completion date | 17 August 2021 |
| Global end of trial reached? | Yes |
| Global end of trial date | 17 August 2021 |
| Was the trial ended prematurely? | No |

Notes:

General information about the trial

Main objective of the trial:

Changes within the humoral or cellular immune system (e.g. T cell and B cell subsets; specific antibody concentrations against pertussis, measles, and according IgG specific avidities; T cell receptor diversity) after pulsatile dexamethasone treatment

Protection of trial subjects:

There was no additional risk for the patients during the study. Blood was taken as part of routine care.

Background therapy:

anti-epileptic therapy following national treatment guidelines

Evidence for comparator:

There was no evidence for a comparator in this trial.

| | |
|---|-----------------|
| Actual start date of recruitment | 02 October 2019 |
| 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 | Austria: 20 |
| Worldwide total number of subjects | 20 |
| EEA total number of subjects | 20 |

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) | 14 |
| Adolescents (12-17 years) | 6 |
| Adults (18-64 years) | 0 |
| From 65 to 84 years | 0 |
| 85 years and over | 0 |

Subject disposition

Recruitment

Recruitment details:

Children with West-Syndrome, Lennox-Gastaut-Syndrome, Continuous Spike-Waves during Slow Sleep (CSWS Syndrom) / Electrical Status epilepticus in slow Sleep (ESES) with pulsatile dexamethasone therapy and healthy age matched controls were enrolled at the Department of Paediatrics I, MUI.

Pre-assignment

Screening details:

Children with West-Syndrome, Lennox-Gastaut-Syndrome, Continuous Spike-Waves during Slow Sleep (CSWS Syndrom) / Electrical Status epilepticus in slow Sleep (ESES) with pulsatile dexamethasone therapy and healthy age matched controls were enrolled at the Department of Paediatrics I, MUI.

Pre-assignment period milestones

| | |
|------------------------------|-------------------|
| Number of subjects started | 23 ^[1] |
| Number of subjects completed | 20 |

Pre-assignment subject non-completion reasons

| | |
|----------------------------|-----------------------|
| Reason: Number of subjects | Physician decision: 3 |
|----------------------------|-----------------------|

Notes:

[1] - The number of subjects reported to have started the pre-assignment period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.

Justification: No blood was taken from three patients primarily enrollement. Therefore, these patients were excluded from the study.

Period 1

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

Arms

| | |
|------------------------------|---------|
| Are arms mutually exclusive? | Yes |
| Arm title | Control |

Arm description:

11 age- and sex-matched healthy volunteers who were not treated were included.
Blood sampling was done routinely.

| | |
|---|-----------------|
| Arm type | No intervention |
| No investigational medicinal product assigned in this arm | |
| Arm title | patients |

Arm description:

9 patients who recieved 5 cycles of pulsatile corticoid therapy with dexamethasone 20 mg/m² i.v. on 3 days were enrolled.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Dexamethasone |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Concentrate and solvent for dispersion for injection |
| Routes of administration | Intravenous use |

Dosage and administration details:

I.v. administration of dexamethasone; Charge numbers V04412A and T29343B (Dexabene® 4mg Ampullen, Ratiopharm); dosage: 20mg/m² are given in maximum 5 times with a break of minimum 4 weeks between

| Number of subjects in period 1 | Control | patients |
|---------------------------------------|---------|----------|
| Started | 11 | 9 |
| Completed | 11 | 9 |

Baseline characteristics

Reporting groups

| | |
|-----------------------|---------|
| Reporting group title | Control |
|-----------------------|---------|

Reporting group description:

11 age- and sex-matched healthy volunteers who were not treated were included.

Blood sampling was done routinely.

| | |
|-----------------------|----------|
| Reporting group title | patients |
|-----------------------|----------|

Reporting group description:

9 patients who recieved 5 cycles of pulsatile corticoid therapy with dexamethasone 20 mg/m2 i.v. on 3 days were enrolled.

| Reporting group values | Control | patients | Total |
|---------------------------|-------------|-------------|-------|
| Number of subjects | 11 | 9 | 20 |
| Age categorical | | | |
| Units: Subjects | | | |
| Children (2-11 years) | 6 | 6 | 12 |
| Adolescents (12-17 years) | 5 | 3 | 8 |
| Age continuous | | | |
| Units: years | | | |
| median | 11 | 7.2 | |
| full range (min-max) | 6.9 to 15.5 | 6.0 to 14.2 | - |
| Gender categorical | | | |
| Units: Subjects | | | |
| Male | 11 | 9 | 20 |

End points

End points reporting groups

| | |
|---|----------|
| Reporting group title | Control |
| Reporting group description: 11 age- and sex-matched healthy volunteers who were not treated were included. Blood sampling was done routinely. | |
| Reporting group title | patients |
| Reporting group description: 9 patients who recieved 5 cycles of pulsatile corticoid therapy with dexamethasone 20 mg/m2 i.v. on 3 days were enrolled. | |

Primary: possible influence of dexamethasone treatment on the human T and B cell pool and linked immune reactions

| | |
|--|---|
| End point title | possible influence of dexamethasone treatment on the human T and B cell pool and linked immune reactions ^[1] |
| End point description: Changes within the humoral or cellular immune system (e.g. T cell and B cell subsets; specific antibody concentrations against pertussis, measles, and according IgG specific avidities; T cell receptor diversity) after pulsatile dexamethasone treatment should be assessed by flow cytometric analysis, routine blood testing, ELISA techniques, T cell receptor spectratyping, from whole blood. Due to small sample size not all tests were performed in all patients/controls. | |
| End point type | Primary |
| End point timeframe: 06.05.2020 - 17.08.2021 | |

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: Due to small sample size not all tests were performed in all patients/controls. Due to the format of our study no new data on efficacy or safety reasons were gained.

| End point values | Control | patients | | |
|--------------------------------------|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 11 | 9 | | |
| Units: specific T and B cell subsets | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

06.05.2020 - 17.08.2021

Adverse event reporting additional description:

All patients had received the investigated drug at least several months prior to enrollment in our study population. No relevant changes on efficacy or safety were identified.

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

Dictionary used

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|-----------------|-------|
| Dictionary name | CTCAE |
|-----------------|-------|

| | |
|--------------------|-----|
| Dictionary version | 4.0 |
|--------------------|-----|

Reporting groups

| | |
|-----------------------|----------|
| Reporting group title | patients |
|-----------------------|----------|

Reporting group description:

All patients had received the investigated drug at least several months before inclusion into our study population. Therefore, no relevant changes were found with regard to knowledge of the safety reasons.

| | |
|-----------------------|----------|
| Reporting group title | Controll |
|-----------------------|----------|

Reporting group description:

11 age- and gender-matched healthy subjects, which were not treated, were enrolled

| Serious adverse events | patients | Controll | |
|---|---------------|----------------|--|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 9 (0.00%) | 0 / 11 (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 | patients | Controll | |
|---|---------------|----------------|--|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 0 / 9 (0.00%) | 0 / 11 (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 AEs were observed in this trial.

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

| Date | Amendment |
|---------------|--|
| 25 April 2019 | According to the new DSGVO, written informed consent sheets had been adapted in November 2019. An amendment was handed in the local Ethics committee and got approved on the 14th of November 2019 |

Notes:

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.

We were unable to recruit the desired number of patients due to the small incidence of patients with intractable epileptic syndromes in our geographical area. This limits the power of the study.

Notes: