Clinical trial results:
TACT –Thiamine in Anorexia Clinical Trial

Summary

EudraCT number	2017-004831-35
Trial protocol	SE
Global end of trial date	17 December 2021

Results information

Result version number	v1 (current)
This version publication date	01 January 2023
First version publication date	01 January 2023

Trial information

Trial identification

Sponsor protocol code	TACT

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	Umeå University Hospital
Sponsor organisation address	Dept of Psychiatry, Umeå University Hospital, Umeå, Sweden, 90185
Public contact	Peter Asellus, Dept of Psychiatry, Umeå University Hospital, peter.asellus@umu.se
Scientific contact	Peter Asellus, Dept of Psychiatry, Umeå University Hospital, peter.asellus@umu.se

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	12 December 2022
Is this the analysis of the primary completion data?	Yes
Primary completion date	17 December 2021
Global end of trial reached?	Yes
Global end of trial date	17 December 2021
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To study the effects of thiamine on weight in Anorexia Nervosa and controls and the tolerability of thiamine treatment.

Protection of trial subjects:

For safety evaluation, the subjects were monitored for compliance including adverse events occurrence. Subjects remained under supervision for 30 minutes after injection of thiamine, in order to monitor for anaphylactic reaction or bleeding. Adverse events were registrered from the time a patient received the first dose of thiamine in the trial until he/she had completed the trial.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	24 September 2018
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	Sweden: 30
Worldwide total number of subjects	30
EEA total number of subjects	30

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)	30
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Patients were recruited among new patients at the Freja Clinic in Umeå, currently not receiving any form of active treatment for an eating disorder.
Recruitment of normal weight controls was done by posters in public settings.

Pre-assignment

Screening details:

Screening of patients included a structured diagnostic interview and a number of self assessment tests (i.e. self-injury behaviour and body attitude) and a diagnostic round. Controls were screened for any history of psychiatric or somatic illness by the sponsor.

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	Patients with Anorexia Nervosa

Arm description:

Patients with Anorexia Nervosa

Arm type	Experimental
Investigational medicinal product name	Tiacur
Investigational medicinal product code	A11DA01
Other name	
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

100 mg (2 ml of Tiacur 50 mg/ml) intramuscular injection given three times, once in 24h (total dose 300 mg)

Arm title	Normal weight controls

Arm description:

Normal weight controls

Arm type	Active comparator
Investigational medicinal product name	Tiacur
Investigational medicinal product code	A11DA01
Other name	
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

100 mg (2 ml of Tiacur 50 mg/ml) intramuscular injection given three times, once in 24h (total dose 300 mg)

Number of subjects in period 1	Patients with Anorexia Nervosa	Normal weight controls
Started	14	16
Completed	13	15
Not completed	1	1
Lack of time	1	-
Breastfeeding	-	1

Baseline characteristics

Reporting groups	
Reporting group title	Patients with Anorexia Nervosa
Reporting group description: Patients with Anorexia Nervosa	
Reporting group title	Normal weight controls
Reporting group description: Normal weight controls	

Reporting group values	Patients with Anorexia Nervosa	Normal weight controls	Total
Number of subjects	14	16	30
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	14	16	30
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	12	12	24
Male	2	4	6

End points

End points reporting groups

Reporting group title	Patients with Anorexia Nervosa
Reporting group description: Patients with Anorexia Nervosa	
Reporting group title	Normal weight controls
Reporting group description: Normal weight controls	

Primary: Evaluate the treatment-effect of thiamine in Anorexia Nervosa

End point title	Evaluate the treatment-effect of thiamine in Anorexia Nervosa
End point description: The primary endpoint is to evaluate the treatment-effect of thiamine in Anorexia Nervosa. The main outcome is weight-gain, as measured by increase in kilograms, which is a fairly standard way of evaluating the efficacy of treatment for anorexia.	
End point type	Primary
End point timeframe: Weight-gain recorded closest to day 42 of treatment	

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	13[1]	15[2]		
Units: kilogram(s)				
number (not applicable)	13	15		

Notes:

[1] - Data-analysis planned for January/February 2023

[2] - Data-analysis planned for January/February 2023

Statistical analyses

Statistical analysis title	Change in weight
Comparison groups	Patients with Anorexia Nervosa v Normal weight controls
Number of subjects included in analysis	28
Analysis specification	Pre-specified
Analysis type	other[3]
P-value	≤ 0.05 [4]
Method	Wilcoxon (Mann-Whitney)

Notes:

[3] - Descriptive statistical analysis

[4] - The most commonly used threshold

Secondary: Change in appetite

End point title	Change in appetite

End point description:	
Change in appetite. Based on scores on the "appetite"-item in MADRSs.	
End point type	Secondary
End point timeframe:	
At start of study and after 6 weeks.	

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	13	15		
Units: Points	13	15		

Statistical analyses

No statistical analyses for this end point

Secondary: Change in mood and anxiety

End point title	Change in mood and anxiety
End point description:	
Change in mood and anxiety, as measured by total MADRS-s-score	
End point type	Secondary
End point timeframe:	
At inclusion to study and after 6 weeks	

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14[5]	15[6]		
Units: Scores	14	15		

Notes:

[5] - Analysis to be completed in 2023

[6] - Analysis to be completed in 2023

Statistical analyses

No statistical analyses for this end point

Secondary: Change in neurocognitive function, with a specific focus on learning and memory

End point title	Change in neurocognitive function, with a specific focus on learning and memory
End point description:	
Change in neurocognitive function, with a specific focus on learning and memory.	

End point type	Secondary

End point timeframe:

At inclusion to study and after 6 weeks

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14[7]	15[8]		
Units: Number	14	15		

Notes:

[7] - Analysis to be performed in 2023

[8] - Analaysis to be performed in 2023

Statistical analyses

No statistical analyses for this end point

Secondary: Thiamine levels and thiamine metabolism

End point title	Thiamine levels and thiamine metabolism

End point description:

Thiamine levels and thiamine metabolism in patients having been treated for Anorexia Nervosa. Measure-ments of serum thiamine levels and transketolase-activity.

End point type	Secondary

End point timeframe:

At inclusion to study and after 6 weeks

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14[9]	15[10]		
Units: number	14	15		

Notes:

[9] - Analysis to be done in 2023

[10] - Analysis to be done in 2023

Statistical analyses

No statistical analyses for this end point

Secondary: Epigenetic effects of treatment with thiamine and treatment-as-usual for Anorexia Nervosa

End point title	Epigenetic effects of treatment with thiamine and treatment-as-usual for Anorexia Nervosa

End point description:

Epigenetic effects of treatment with thiamine and treatment-as-usual for Anorexia Nervosa. Analysis of DNA and mitochondrial DNA associated with the uptake and function of thiamine.

End point type	Secondary

End point timeframe:

At inclusion to study and after 6 weeks

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	14[11]	15[12]		
Units: number	14	15		

Notes:

[11] - Analaysis to be completed in 2023

[12] - Analysis to be completed in 2023

Statistical analyses

No statistical analyses for this end point

Secondary: Effects of treatment on lipids, cortisol and oxysterols

End point title	Effects of treatment on lipids, cortisol and oxysterols

End point description:

Effects of treatment on lipids, cortisol and oxysterols

End point type	Secondary

End point timeframe:

At inclusion to study and after 6 weeks

End point values	Patients with Anorexia Nervosa	Normal weight controls		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	13	15		
Units: Number	13	15		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: From the time of the first injection until the subject completed the trial	
Assessment type	Non-systematic
Dictionary used	
Dictionary name	CTCAE
Dictionary version	5.0
Reporting groups	
Reporting group title	Patients with Anorexia Nervosa
Reporting group description: Patients with Anorexia Nervosa	
Reporting group title	Normal weight controls
Reporting group description: Normal weight controls	

Serious adverse events	Patients with Anorexia Nervosa	Normal weight controls	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 13 (0.00%)	0 / 15 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events			

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	Patients with Anorexia Nervosa	Normal weight controls	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	8 / 13 (61.54%)	9 / 15 (60.00%)	
Vascular disorders			
Hematoma	Additional description: Bruise after blood sampling		
subjects affected / exposed	1 / 13 (7.69%)	1 / 15 (6.67%)	
occurrences (all)	1	1	
Vascular disorders - other	Additional description: Tiny leakage of injected fluid and/or blood at the injection site		
subjects affected / exposed	0 / 13 (0.00%)	5 / 15 (33.33%)	
occurrences (all)	0	6	
Renal and urinary disorders			

Urine discoloration	Additional description: Gritty urine for 1 week after injection of thiamine		
subjects affected / exposed	0 / 13 (0.00%)	1 / 15 (6.67%)	
occurrences (all)	0	1	
Psychiatric disorders			
Anxiety	Additional description: Discomfort shile waiting at the clinic before and after the injection		
subjects affected / exposed	1 / 13 (7.69%)	0 / 15 (0.00%)	
occurrences (all)	1	0	
Musculoskeletal and connective tissue disorders			
Buttock pain	Additional description: Pain/tenderness in the muscle after injection of thiamine		
subjects affected / exposed	6 / 13 (46.15%)	4 / 15 (26.67%)	
occurrences (all)	13	9	
Pain in extremity	Additional description: Pain after blood sampling		
subjects affected / exposed	1 / 13 (7.69%)	0 / 15 (0.00%)	
occurrences (all)	1	0	

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