Clinical trial results:
A prospective randomised controlled trial comparing the use of open label pentoxifylline and tocopherol versus current standard of care for the prevention of fibrosis related outcomes in irradiated head and neck oncology patients (Feasibility Study)

Summary

EudraCT number	2018-001153-27
Trial protocol	GB
Global end of trial date	30 November 2023
Results information	
Result version number	v1 (current)
This version publication date	23 August 2025
First version publication date	23 August 2025
Summary attachment (see zip file)	PENVE CSR EudraCT Results Upload 13Jun25 (PENVE CSR EudraCT Results Upload 13Jun25.pdf)

Trial information

Trial identification	
Sponsor protocol code	PenVe
Additional study identifiers	
ISRCTN number	ISRCTN74484952
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-

Notes:

Sponsors	
Sponsor organisation name	Guy's and St Thomas NHS Foundation Trust
Sponsor organisation address	Great Maze Pond, London, United Kingdom, SE1 9RT
Public contact	Mr Vinod Patel, , Guy's and St Thomas' NHS Foundation Trust, 44 0207188 3885, vinod.patel@gstt.nhs.uk
Scientific contact	Mr Vinod Patel, , Guy's and St Thomas' NHS Foundation Trust, 44 0207188 3885, vinod.patel@gstt.nhs.uk

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	28 November 2023
Is this the analysis of the primary completion data?	Yes
Primary completion date	02 August 2023
Global end of trial reached?	Yes
Global end of trial date	30 November 2023
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To assess the feasibility of a randomised controlled trial of pentoxifylline in combination with vitamin E (PVe) for the prevention of radiation induced fibrosis outcomes in head and neck radiotherapy patients compared to best standard of care.

•To assess patient's preference for pentoxifylline and vitamin E formulation, in a tablet vs liquid format (Intervention group only)
•To assess patient's subsequent side effects related to the pentoxifylline and vitamin E (Intervention group only)
• To assess the recruitment into the trial
• To assess retention of the participants in the trial
• To assess the participation in the trial follow up visits and phone calls
• To assess patient adherence to pentoxifylline and Vitamin E (Intervention group only)
• To assess the acceptability to participants of the outcome measurement tools

Protection of trial subjects:

Participants have the right to withdraw from the study at any time for any reason. The investigator also has the right to withdraw patients from the study drug in the event of inter-current illness, AEs, SAE's, SUSAR's, protocol violations, cure, administrative reasons or other reasons. Participants who develop ORN will be withdrawn from the study. Reaching this endpoint would mean that the treatment did not work and would be of no benefit to continue. Outcome measures would also not be comparable to participants who did not develop ORN. It is understood by all concerned that an excessive rate of withdrawals can render the study un-interpretable; therefore, unnecessary withdrawal of patients should be avoided. Should a patient

decide to withdraw from the study, all efforts will be made to report the reason for withdrawal as thoroughly as possible. Should a patient withdraw from study drug only, efforts will be made to continue to retain and obtain follow-up data, with the permission of the patient.

Participants who wish to withdraw from trial medication (IMP) will be asked to confirm whether they are still willing to provide the following:

· Trial specific data at visits attended

· Data collected as per routine clinical practice at visits attended

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	05 August 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	United Kingdom: 29
Worldwide total number of subjects	29
EEA total number of subjects	29

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)	22
From 65 to 84 years	7
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details: -

Pre-assignment period milestones

Number of subjects started	54[1]
Number of subjects completed	29

Pre-assignment subject non-completion reasons

Reason: Number of subjects	Screen Failure: 25

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: We do not count screening participants as enrolled

Period 1

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

Blinding implementation details:

open labelled trial investigating outcomes following the prophylactic use of pentoxifylline and tocopherol in irradiated head and neck oncology patients.

Arms

Are arms mutually exclusive?	Yes
Arm title	Investigational Arm

Arm description: -

Arm type	Experimental
Investigational medicinal product name	Pentoxifylline & Tocopheryl
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Modified-release tablet, Oral liquid
Routes of administration	Oral use

Dosage and administration details:

-Pentoxifylline dose: 400mg (liquid or tablet formulation) TWICE a day.
-Vitamin E (alpha-tocopheryl) dose: 1000 IU (liquid or tablet formulation) ONCE a day.

Arm title	Control

Arm description: -

Arm type	No intervention

No investigational medicinal product assigned in this arm

Number of subjects in period 1	Investigational Arm	Control
Started	22	7
Completed	16	6
Not completed	6	1
Treatment failure	1	-
Lost to follow-up	3	-
No longer wished to take part	1	1
Had recurrence of cancer	1	-

Baseline characteristics

Reporting groups	
Reporting group title	Investigational Arm
Reporting group description: -	
Reporting group title	Control
Reporting group description: -	

Reporting group values	Investigational Arm	Control	Total
Number of subjects	22	7	29
Age categorical Units: Subjects			
In utero			0
Preterm newborn infants (gestational age < 37 wks)			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 65-84 years			0
85 years and over			0
Age continuous Units: years			
arithmetic mean	59.3	56.9	
standard deviation	± 8.60	± 6.64	-
Gender categorical Units: Subjects			
Female	4	1	5
Male	18	6	24

End points

End points reporting groups

Reporting group title	Investigational Arm
Reporting group description: -	
Reporting group title	Control
Reporting group description: -	

Primary: Primary outcome 1: Requested formulation change for Pentoxifylline or Vitamin E

End point title	Primary outcome 1: Requested formulation change for Pentoxifylline or Vitamin E[1]
End point description:	
End point type	Primary
End point timeframe:	
Day 1 to Month 6	

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: Please see uploaded report

End point values	Investigational Arm	Control		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	22	7		
Units: 29				
Yes	0	0		
No, never requested to change formulation during	22	0		
No, participant is not in intervention arm	0	5		
Not applicable	0	2		
Missing	0	0		

Statistical analyses

No statistical analyses for this end point

Primary: Primary Outcome 5a: Participation in the trial follow-up visits (Intent-to-treat population)

End point title	Primary Outcome 5a: Participation in the trial follow-up visits (Intent-to-treat population)[2]
End point description:	
Participation in the trial follow-up visits (Intent-to-treat population)	
End point type	Primary

End point timeframe:

Baseline to Month 6

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: Please see uploaded report

End point values	Investigational Arm	Control		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	22	7		
Units: 29				
Visit 1 (Absent)	0	0		
Visit 1 (Present)	22	7		
Visit 2 (Absent)	0	0		
Visit 2 (Present)	22	7		
Visit 3 (Absent)	0	0		
Visit 3 (Present)	22	7		
Visit 4 (Absent)	1	1		
Visit 4 (Present)	21	6		
Visit 5 (Absent)	3	1		
Visit 5 (Present)	19	6		
Visit 6 (Absent)	0	0		
Visit 6 (Present)	22	7		

Statistical analyses

No statistical analyses for this end point

Primary: Primary Outcome 5b: Participation in trial follow-up visits (Intent-to-treat population) - phone call

End point title	Primary Outcome 5b: Participation in trial follow-up visits (Intent-to-treat population) - phone call[3][4]

End point description:

Participation in trial follow-up visits by phone call (Intent-to-treat population)

End point type	Primary

End point timeframe:

Baseline to Month 6

Notes:

[3] - 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: Please see uploaded report

[4] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint only concerned the active intervention arm. Please see uploaded report

End point values	Investigational Arm			
Subject group type	Reporting group			
Number of subjects analysed	22			
Units: 22				
Day 1 Team contacted participant - Successful	19			
Day 1 Team contacted participant - Not Successful	0			
Day 1 Participant contacted study team	0			
Day 1 Not applicable	0			
Day 1 Missing	3			
Day 2 Team contacted participant - Successful	18			
Day 2 Team contacted participant - Not Successful	1			
Day 2 Participant contacted study team	0			
Day 2 Not applicable	0			
Day 2 Missing	3			
Day 3 Team contacted participant - Successful	19			
Day 3 Team contacted participant - Not Successful	0			
Day 3 Participant contacted study team	0			
Day 3 Not applicable	0			
Day 3 Missing	3			
Day 4 Team contacted participant - Successful	19			
Day 4 Team contacted participant - Not Successful	0			
Day 4 Participant contacted study team	0			
Day 4 Not applicable	0			
Day 4 Missing	3			
Day 5 Team contacted participant - Successful	19			
Day 5 Team contacted participant - Not Successful	0			
Day 5 Participant contacted study team	0			
Day 5 Not applicable	0			
Day 5 Missing	3			
Day 6 Team contacted participant - Successful	17			
Day 6 Team contacted participant - Not Successful	2			
Day 6 Participant contacted study team	0			
Day 6 Not applicable	0			
Day 6 Missing	3			
Day 7 Team contacted participant - Successful	19			
Day 7 Team contacted participant - Not Successful	0			
Day 7 Participant contacted study team	0			
Day 7 Not applicable	0			
Day 7 Missing	3			
Day 8 Team contacted participant - Successful	18			

Day 8 Team contacted participant - Not Successful	1			
Day 8 Participant contacted study team	0			
Day 8 Not applicable	0			
Day 8 Missing	3			
Day 9 Team contacted participant - Successful	17			
Day 9 Team contacted participant - Not Successful	2			
Day 9 Participant contacted study team	0			
Day 9 Not applicable	0			
Day 9 Missing	3			
Day 10 Team contacted participant - Successful	19			
Day 10 Team contacted participant - Not Successful	0			
Day 10 Participant contacted study team	0			
Day 10 Not applicable	0			
Day 10 Missing	3			
Day 11 Team contacted participant - Successful	17			
Day 11 Team contacted participant - Not Successful	1			
Day 11 Participant contacted study team	0			
Day 11 Not applicable	0			
Day 11 Missing	4			
Day 12 Team contacted participant - Successful	16			
Day 12 Team contacted participant - Not Successful	2			
Day 12 Participant contacted study team	0			
Day 12 Not applicable	0			
Day 12 Missing	4			
Day 13 Team contacted participant - Successful	17			
Day 13 Team contacted participant - Not Successful	1			
Day 13 Participant contacted study team	0			
Day 13 Not applicable	0			
Day 13 Missing	4			
Day 14 Team contacted participant - Successful	17			
Day 14 Team contacted participant - Not Successful	1			
Day 14 Participant contacted study team	0			
Day 14 Not applicable	0			
Day 14 Missing	4			
Week 5 Team contacted participant - Successful	15			
Week 5 Team contacted participant - Not Successful	3			
Week 5 Participant contacted study team	0			
Week 5 Not applicable	0			
Week 5 Missing	4			
Week 8 Team contacted participant - Successful	14			

Week 8 Team contacted participant - Not Successful	2			
Week 8 Participant contacted study team	0			
Week 8 Not applicable	0			
Week 8 Missing	6			
Week 11 Team contacted participant Successful	14			
Week 11 Team contacted participant Not Successful	2			
Week 11 Participant contacted study team	0			
Week 11 Not applicable	0			
Week 11 Missing	6			
Week 14 Team contacted participant Successful	11			
Week 14 Team contacted participant Not Successful	5			
Week 14 Participant contacted study team	0			
Week 14 Not applicable	0			
Week 14 Missing	6			
Week 17 Team contacted participant Successful	10			
Week 17 Team contacted participant Not Successful	3			
Week 17 Participant contacted study team	0			
Week 17 Not applicable	0			
Week 17 Missing	9			
Week 20 Team contacted participant Successful	10			
Week 20 Team contacted participant Not Successful	3			
Week 20 Participant contacted study team	0			
Week 20 Not applicable	0			
Week 20 Missing	9			
Week 23 Team contacted participant Successful	9			
Week 23 Team contacted participant Not Successful	2			
Week 23 Participant contacted study team	0			
Week 23 Not applicable	0			
Week 23 Missing	11			
Week 26 Team contacted participant Successful	5			
Week 26 Team contacted participant Not Successful	2			
Week 26 Participant contacted study team	0			
Week 26 Not applicable	0			
Week 26 Missing	15			

Statistical analyses

No statistical analyses for this end point

Primary: Primary Outcome 6: Patient adherence as measured by blood vitamin E levels at Baseline, Month 3 and Month 6 time points (Intent-to-Treat Population)

End point title	Primary Outcome 6: Patient adherence as measured by blood vitamin E levels at Baseline, Month 3 and Month 6 time points (Intent-to-Treat Population)[5]

End point description:

Patient adherence as measured by blood vitamin E levels at
Baseline, Month 3 and Month 6 time points (Intent-to-Treat Population

End point type	Primary

End point timeframe:

Day 1 to Month 6

Notes:

[5] - 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: Please see uploaded report

End point values	Investigational Arm	Control		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	22	7		
Units: ng/mL				
arithmetic mean (standard deviation)				
Baseline	35.2 (± 10.6)	29.6 (± 7.34)		
Month 3	91.8 (± 184)	31.8 (± 5.36)		
Month 6	55.2 (± 22.3)	31.6 (± 8.41)		

Statistical analyses

No statistical analyses for this end point

Primary: Primary outcome 6: Patient adherence to IMP measured by self-report (only intervention arm of Intent-to-Treat Population)

End point title	Primary outcome 6: Patient adherence to IMP measured by self-report (only intervention arm of Intent-to-Treat Population)[6][7]

End point description:

Patient adherence to IMP measured by self-report (only intervention arm of Intent-to-Treat Population)

End point type	Primary

End point timeframe:

Day 1 to Month 6

Notes:

[6] - 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: Please see uploaded report

[7] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint only concerned the active intervention arm. Please see uploaded report

End point values	Investigational Arm			
Subject group type	Reporting group			
Number of subjects analysed	22			
Units: 100				
Number of missed Vitamin E doses (%)	10			
Number of missed Pentoxifylline doses (%)	25			

Statistical analyses

No statistical analyses for this end point

Primary: Primary Outcome 7: Acceptability of questionnaires as measures by the number (%) of Questionnaires Completed by Participants by Treatment (Intent-to-Treat Population)

End point title	Primary Outcome 7: Acceptability of questionnaires as measures by the number (%) of Questionnaires Completed by Participants by Treatment (Intent-to-Treat Population)[8]

End point description:

Acceptability of questionnaires as measures by the number (%) of Questionnaires Completed by Participants by Treatment (Intent-to-Treat Population)

End point type	Primary

End point timeframe:

Baseline to month 6

Notes:

[8] - 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: Please see uploaded report

End point values	Investigational Arm	Control		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	22	7		
Units: 29				
Baseline (UW-QOL) Complete	18	5		
Baseline (UW-QOL) Incomplete	4	2		
Month 3 (UW-QOL) Complete	16	5		
Month 3 (UW-QOL) Incomplete	6	2		
Month 6 (UW-QOL) Complete	12	5		
Month 6 (UW-QOL) Incomplete	10	2		
Baseline (SSQ) Complete	20	7		
Baseline (SSQ) Incomplete	2	0		
Month 3 (SSQ) Complete	13	6		
Month 3 (SSQ) Incomplete	9	1		
Month 6 (SSQ) Complete	8	6		
Month 6 (SSQ) Incomplete	14	1		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: Day 1 to month 6 visit	
Assessment type	Non-systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	22.1

Reporting groups	
Reporting group title	Pentoxifylline & Vitamin E
Reporting group description: -	
Reporting group title	Contol
Reporting group description: -	

Serious adverse events	Pentoxifylline & Vitamin E	Contol	
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
General disorders and administration site conditions			
High Temperature			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Pentoxifylline & Vitamin E	Contol	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	11 / 22 (50.00%)	1 / 7 (14.29%)	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Recurrent head and neck cancer			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Cardiac disorders			

Atrial flutter			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Surgical and medical procedures			
Radiography to replace NG tube			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
General disorders and administration site conditions			
Muscle Pain			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Dizziness			
subjects affected / exposed	3 / 22 (13.64%)	0 / 7 (0.00%)	
occurrences (all)	6	0	
Dry mouth			
subjects affected / exposed	3 / 22 (13.64%)	0 / 7 (0.00%)	
occurrences (all)	3	0	
Pyrexia			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Saliva decreased			
subjects affected / exposed	0 / 22 (0.00%)	1 / 7 (14.29%)	
occurrences (all)	0	1	
NG tube fell out			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Purulent phlegm			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Tremor			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Dyspnoea			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Pain in jaw			

subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Tongue pain			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Mouth ulceration			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	2	0	
Headache			
subjects affected / exposed	3 / 22 (13.64%)	0 / 7 (0.00%)	
occurrences (all)	6	0	
Migraine			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Paraesthesia (leg)			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Dysphagia			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Gastrointestinal disorders			
Gastric Irritation			
subjects affected / exposed	3 / 22 (13.64%)	0 / 7 (0.00%)	
occurrences (all)	4	0	
Vomiting			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	10	0	
Constipation			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Abdominal pain			
subjects affected / exposed	2 / 22 (9.09%)	0 / 7 (0.00%)	
occurrences (all)	2	0	
Diarrhoea			
subjects affected / exposed	2 / 22 (9.09%)	0 / 7 (0.00%)	
occurrences (all)	2	0	

Nausea			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Oesophagitis			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Abdominal noises			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	2	0	
Respiratory, thoracic and mediastinal disorders			
Pneumonia			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Nasopharyngitis			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Throat irritation			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
COVID			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Cough			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Dry throat			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Psychiatric disorders			
Depression			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	
Metabolism and nutrition disorders			
Hypothyroidism			
subjects affected / exposed	1 / 22 (4.55%)	0 / 7 (0.00%)	
occurrences (all)	1	0	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
10 June 2020	SA protocol V2
01 April 2021	IMPD v4.0

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? Yes

Date	Interruption	Restart date
18 March 2020	COVID	05 October 2020

Notes:

Limitations and caveats

None reported