Clinical trial results:
A randomized, parallel group, multi-centre phase-2 study of GX-G3 compared with pegfilgrastim as an adjunct to chemotherapy in patients with Non-Hodgkin's Lymphoma

Summary

EudraCT number	2015-002693-20
Trial protocol	BG
Global end of trial date	29 August 2019

Results information

Result version number	v1 (current)
This version publication date	22 January 2020
First version publication date	22 January 2020

Trial information

Trial identification

Sponsor protocol code	GXG3_NHL_2/CGX14001

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	Ilkogen Ilac San. ve Tic. A.S.
Sponsor organisation address	Sanayi Mahallesi Teknopark Bulvari No: 1/3 A/411 Pendik, İstanbul, Turkey, 34906
Public contact	Burcu Bulut, Ilkogen Ilac San. ve Tic. A.S., +90 2165648000, byilmaz@ilko.com.tr
Scientific contact	Burcu Bulut, Ilkogen Ilac San. ve Tic. A.S., +90 2165648000, byilmaz@ilko.com.tr

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	27 May 2019
Is this the analysis of the primary completion data?	Yes
Primary completion date	18 December 2018
Global end of trial reached?	Yes
Global end of trial date	29 August 2019
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective of the present trial is to assess the efficacy, safety, and tolerability of three doses of GX-G3 with the aim of selecting the optimal dose by comparing each of the doses with the reference product (Neulasta®). The major aim for including one group with delayed administration (250 µg/kg of GX-G3 on day 3 after R-CHOP dosing) is to evaluate the optimal point in time for dosing of the test product.

Protection of trial subjects:

Continuous medical surveillance during the whole trial by means of: laboratory examinations, vital signs, check of exclusion/withdrawal criteria, adverse event questioning.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	14 February 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	Turkey: 19
Country: Number of subjects enrolled	Korea, Republic of: 5
Country: Number of subjects enrolled	Ukraine: 5
Country: Number of subjects enrolled	Romania: 6
Country: Number of subjects enrolled	Bulgaria: 26
Country: Number of subjects enrolled	Germany: 4
Worldwide total number of subjects	65
EEA total number of subjects	36

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)	38
From 65 to 84 years	27
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

The results from screening and data collected during the study were recorded in the patient's case report

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	Cohort 1

Arm description:

150 µg/kg body weight 24 hrs after R-CHOP administration (treatment A)

Arm type	Experimental
Investigational medicinal product name	GX-G3
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

150 µg/kg body weight 24 hrs after R-CHOP administration (treatment A)

Arm title	Cohort 2

Arm description:

250 µg/kg body weight 24 hrs after R-CHOP administration (treatment B)

Arm type	Experimental
Investigational medicinal product name	GX-G3
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

250 µg/kg body weight 24 hrs after R-CHOP administration (treatment B)

Arm title	Cohort 3

Arm description:

350 µg/kg body weight 24 hrs after R-CHOP administration (treatment C)

Arm type	Experimental
Investigational medicinal product name	GX-G3
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

350 µg/kg body weight 24 hrs after R-CHOP administration (treatment C)

Arm title	Cohort 4
Arm description: Reference product (Neulasta®) (Treatment D)	
Arm type	Experimental
Investigational medicinal product name	Reference product (Neulasta®)
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use
Dosage and administration details: Reference product (Neulasta®) (Treatment D)	

Arm title	Cohort 5
Arm description: 250 µg/kg body weight 72 hrs after R-CHOP administration (treatment E)	
Arm type	Experimental
Investigational medicinal product name	GX-G3
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use
Dosage and administration details: 250 µg/kg body weight 72 hrs after R-CHOP administration (treatment E)	

Number of subjects in period 1	Cohort 1	Cohort 2	Cohort 3
Started	14	12	13
Completed	14	12	13

Number of subjects in period 1	Cohort 4	Cohort 5
Started	12	14
Completed	12	14

Baseline characteristics

End points

End points reporting groups

Reporting group title	Cohort 1
Reporting group description:	
150 µg/kg body weight 24 hrs after R-CHOP administration (treatment A)	
Reporting group title	Cohort 2
Reporting group description:	
250 µg/kg body weight 24 hrs after R-CHOP administration (treatment B)	
Reporting group title	Cohort 3
Reporting group description:	
350 µg/kg body weight 24 hrs after R-CHOP administration (treatment C)	
Reporting group title	Cohort 4
Reporting group description:	
Reference product (Neulasta®) (Treatment D)	
Reporting group title	Cohort 5
Reporting group description:	
250 µg/kg body weight 72 hrs after R-CHOP administration (treatment E)	
Subject analysis set title	Primary Endpoint
Subject analysis set type	Full analysis
Subject analysis set description:	
The primary objective of this study was to assess the efficacy, safety, and tolerability of three doses of GX-G3 with the aim of selecting the optimal dose by comparing each of the doses with the reference product (Neulasta®). Furthermore, the optimal point in time for dosing of the test product by delayed administration of 250 µg/kg body weight (BW) of GX-G3 72 hours after R-CHOP administration was evaluated.	

Primary: Primary endpoint

End point title	Primary endpoint
End point description:	
End point type	Primary
End point timeframe:	
Time to recover from severe neutropenia (defined as ANC <0.5x10^9/l) to a target ≥0.5x10^9/l after each administration of R-CHOP chemotherapy in cycles 1 and 2	

End point values	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	14	12	13	12
Units: number				
arithmetic mean (standard deviation)	3.833 (± 1.697)	2.500 (± 1.000)	3.375 (± 2.504)	3.571 (± 2.936)

End point values	Cohort 5			
Subject group type	Reporting group			
Number of subjects analysed	14			

Units: number				
arithmetic mean (standard deviation)	2.636 (± 1.859)			

Statistical analyses

Statistical analysis title	Primary endpoint Full Analysis Set

Statistical analysis description:

All randomized patients who received at least one dose of the study medication and who have at least one post-baseline assessment of the primary endpoint.

Comparison groups	Cohort 4 v Cohort 1 v Cohort 2 v Cohort 3 v Cohort 5
Number of subjects included in analysis	65
Analysis specification	Post-hoc
Analysis type	superiority
P-value	< 0.5
Method	ANCOVA

Adverse events

Adverse events information

Timeframe for reporting adverse events:

The time of administration of the first cycle of treatment (study day 1) is designated as start of safety data collection. The data collection period ends with the final examination.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	21.1

Reporting groups

Reporting group title	Cohort 2

Reporting group description: -

Serious adverse events	Cohort 2		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 1 (0.00%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		

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

Non-serious adverse events	Cohort 2		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	1 / 1 (100.00%)		
Skin and subcutaneous tissue disorders			
itching			
alternative assessment type: Non-systematic			
subjects affected / exposed	1 / 1 (100.00%)		
occurrences (all)	1		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
13 April 2016	Changes in study protocol
28 September 2016	Change of sponsor address and project management
16 February 2018	Inclusion of 2 other countries

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported