Clinical trial results:
Characterization of cellular and humoral immunity in the elderly upon vaccination with the purified inactivated Japanese Encephalitis Vaccine IXIARO®

Summary

EudraCT number	2010-020450-33
Trial protocol	AT
Global end of trial date	12 August 2018

Results information

Result version number	v1 (current)
This version publication date	17 June 2022
First version publication date	17 June 2022
Summary attachment (see zip file)	Publication of study results (Wagner_JE primary vacc in elderly vs young_ SciRep_2018.pdf)

Trial information

Trial identification

Sponsor protocol code	IX-senesc2.0

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01398540
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Medical University of Vienna
Sponsor organisation address	Spitalgasse 23, Vienna, Austria,
Public contact	Institute of Specific Prophylaxis and Tropical Medicine, Institute of Specific Prophylaxis and Tropical Medicine, 0043 140160-38290,
Scientific contact	Institute of Specific Prophylaxis and Tropical Medicine, Institute of Specific Prophylaxis and Tropical Medicine, 0043 140160-38290,

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	29 June 2018
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	12 August 2018
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Antibody titres 10 weeks after the first vaccination (=6 weeks after the 2. vaccination)

Protection of trial subjects:

Communication always aimed to keep the subjects informed on the upcoming steps (such as blood draw or vaccination) and thereby reduce stress. Furthermore guidelines to reduce pain at vaccination were followed (adequate communication, distraction and instruction for breathing teqniques offered if required).

Background therapy: -

Evidence for comparator:

not applicable

Actual start date of recruitment	15 November 2010
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: 60
Worldwide total number of subjects	60
EEA total number of subjects	60

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)	36
From 65 to 84 years	24
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

Eligibility was checked according to inclusion and exclusion criteria (Vaccination cards were reviewed for prior vaccinations, medical diagnoses and medication and were requested)

Period 1

Period 1 title	baseline (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	young

Arm description:

Participants aged between 18 and 40 years

Arm type	Experimental
Investigational medicinal product name	IXIARO (R)
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

in total 2 vaccination doses (0.5ml) per subject (4 weeks apart +/- 3 days) applied intramuscularly (M. deltoideus)

Arm title	elderly

Arm description:

aged above 60 years

Arm type	Experimental
Investigational medicinal product name	IXIARO (R)
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

in total 2 vaccination doses (0.5ml) per subject (4 weeks apart +/- 3 days) applied intramuscularly (M. deltoideus)

Number of subjects in period 1	young	elderly
Started	30	30
Completed	30	30

Baseline characteristics

Reporting groups	
Reporting group title	baseline

Reporting group description: -

Reporting group values	baseline	Total	
Number of subjects	60	60	
Age categorical			
group 1: 18-40 years old group2: 60 years and older			
Units: Subjects			
young (18 - 40 years)	30	30	
elderly (> 60 years)	30	30	
Gender categorical Units: Subjects			
Female	30	30	
Male	30	30	

End points

End points reporting groups

Reporting group title	young
Reporting group description: Participants aged between 18 and 40 years	
Reporting group title	elderly
Reporting group description: aged above 60 years	

Primary: JEV-PRNT50 6 weeks after the 2nd dose

End point title	JEV-PRNT50 6 weeks after the 2nd dose
End point description:	
End point type	Primary
End point timeframe: 6 weeks after the 2nd vaccine dose	

End point values	young	elderly		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	30	30		
Units: titer 1:x				
geometric mean (confidence interval 95%)	50.0 (18.07 to 81.89)	26.5 (0 to 84.88)		

Statistical analyses

Statistical analysis title	Differences in antibody titers at 6 weeks
Statistical analysis description: Based on prior investigations the standard deviation of loge titres was assumed to be 0.5. With respect to previous study results, a difference of 1:3 in titres of the elderly compared to the young study participants was deemed relevant. Based on these data the standardized effect size is 1. Due to the multiple endpoints sample size calculation was performed on the basis of a corrected alpha error of 0.01.	
Comparison groups	young v elderly
Number of subjects included in analysis	60
Analysis specification	Pre-specified
Analysis type	non-inferiority[1]
P-value	< 0.05
Method	General linear model

Notes:

[1] - A difference of 1:3 in titres of the elderly compared to the young study participants was deemed relevant

Adverse events

Adverse events information[1]	
Timeframe for reporting adverse events: until last patient visit	
Assessment type	Non-systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	1

Reporting groups	
Reporting group title	young
Reporting group description: Participants aged between 18 and 40 years	
Reporting group title	elderly
Reporting group description: aged above 60 years	

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: Non-serious events were non-systemically recorded and included expected local and systemic reactions after vaccination (as listed in the product information) such as transient pain, swelling, redness at injection site or headache.

Serious adverse events	young	elderly	
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 30 (6.67%)	2 / 30 (6.67%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Testicle adenoma			
subjects affected / exposed	1 / 30 (3.33%)	0 / 30 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Palpitations			
subjects affected / exposed	0 / 30 (0.00%)	1 / 30 (3.33%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Syncope	Additional description: collapsed after blood draw		
subjects affected / exposed	1 / 30 (3.33%)	0 / 30 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Eye disorders			

cartaract surgery	Additional description: 1 surgery was already planned before study entry		
subjects affected / exposed	0 / 30 (0.00%)	2 / 30 (6.67%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and subcutaneous tissue disorders			
Herpes simplex	Additional description: a lesion at the lip		
subjects affected / exposed	0 / 30 (0.00%)	1 / 30 (3.33%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	young	elderly	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 30 (0.00%)	0 / 30 (0.00%)	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
23 April 2012	elderly study group inclusion criteria was chanded from: 65 year and above to 60 years and above

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported