



Clinical trial results:

A single-blinded multicenter randomized study comparing intubating conditions after either rocuronium 0.6 mg/kg or remifentanyl 2 µg/kg in elderly patients.

Summary

EudraCT number	2019-004121-25
Trial protocol	DK
Global end of trial date	25 January 2021

Results information

Result version number	v1 (current)
This version publication date	27 March 2021
First version publication date	27 March 2021

Trial information

Trial identification

Sponsor protocol code	NMBA_ELDERLY2019ROCU_REMI
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04287426
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Rigshospitalet
Sponsor organisation address	Inge Lehmanns Vej 6, Copenhagen, Denmark, 2100
Public contact	Department of Anaesthesia, Rigshospitalet, 45 35458043, lars.rasmussen.01@regionh.dk
Scientific contact	Department of Anaesthesia, Rigshospitalet, 61652212 35458043, lars.rasmussen.01@regionh.dk

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	25 February 2021
Is this the analysis of the primary completion data?	Yes
Primary completion date	25 January 2021
Global end of trial reached?	Yes
Global end of trial date	25 January 2021
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The aim of this study is to determine the effect on intubating conditions and laryngeal morbidity after either rocuronium 0.6 mg/kg or remifentanyl 2 µg/kg in patients with age ≥ 80 years.

Protection of trial subjects:

All patients received general anaesthesia and postoperative pain treatment

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	03 March 2020
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	Denmark: 78
Worldwide total number of subjects	78
EEA total number of subjects	78

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)	0
From 65 to 84 years	55
85 years and over	23

Subject disposition

Recruitment

Recruitment details:

Recruitment took place between March 2020 and December 2020.

Pre-assignment

Screening details:

We screened patients above 80 years of age scheduled for elective spine surgery

Period 1

Period 1 title	Overall (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Data analyst, Assessor

Blinding implementation details:

The intervention medicine was prepared outside the operating room and delivered to the clinical staff. The patients, investigators, and surgical staff were unaware of the allocation. Two authors did the data analysis without knowing the allocation as groups were named 0 or 1.

Arms

Are arms mutually exclusive?	Yes
Arm title	Rocuronium

Arm description:

Rocuronium 0.6 mg/kg

Arm type	Active comparator
Investigational medicinal product name	rocuronium
Investigational medicinal product code	119302-91-9
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intravenous bolus use

Dosage and administration details:

0.6 mg/kg ideal body weight or actual body weight (the lowest) iv

Arm title	Remifentanil
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Arm description:

Remifentanil 2 microgram pr kg

Arm type	Active comparator
Investigational medicinal product name	Remifentanil
Investigational medicinal product code	132875-61-7
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intravenous use

Dosage and administration details:

Remifentanil 2 microgram pr kg ideal body weight or actual body weight (lowest) iv

Number of subjects in period 1	Rocuronium	Remifentanil
Started	38	40
Completed	36	38
Not completed	2	2
Consent withdrawn by subject	2	2

Baseline characteristics

Reporting groups

Reporting group title	Rocuronium
Reporting group description: Rocuronium 0.6 mg/kg	
Reporting group title	Remifentanil
Reporting group description: Remifentanil 2 microgram pr kg	

Reporting group values	Rocuronium	Remifentanil	Total
Number of subjects	38	40	78
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	83	83	
standard deviation	± 2.4	± 2.8	-
Gender categorical Units: Subjects			
Female	18	18	36
Male	20	22	42

Subject analysis sets

Subject analysis set title	Recruited
Subject analysis set type	Intention-to-treat
Subject analysis set description: 78 recruited	

Reporting group values	Recruited		
Number of subjects	78		
Age categorical Units: Subjects			
In utero			
Preterm newborn infants (gestational age < 37 wks)			
Newborns (0-27 days)			

Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Age continuous Units: years arithmetic mean standard deviation	83 ± 2.6		
Gender categorical Units: Subjects			
Female Male	36 42		

End points

End points reporting groups

Reporting group title	Rocuronium
Reporting group description:	
Rocuronium 0.6 mg/kg	
Reporting group title	Remifentanil
Reporting group description:	
Remifentanil 2 microgram pr kg	
Subject analysis set title	Recruited
Subject analysis set type	Intention-to-treat
Subject analysis set description:	
78 recruited	

Primary: Excellent intubating conditions

End point title	Excellent intubating conditions
End point description:	
Fuchs-Buder scale	
End point type	Primary
End point timeframe:	
Two minutes after drug administration	

End point values	Rocuronium	Remifentanil		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	36	38		
Units: Numbers				
Excellent conditions	10	15		

Statistical analyses

Statistical analysis title	Chi Square
Comparison groups	Rocuronium v Remifentanil
Number of subjects included in analysis	74
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.29
Method	Chi-squared
Parameter estimate	Risk difference (RD)
Point estimate	0.11
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.09
upper limit	0.33

Secondary: Intervention against hypotension

End point title	Intervention against hypotension
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End point description:

Use of ephedrine or phenylephrine as decided by blinded investigator

End point type	Secondary
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End point timeframe:

From induction to patient ready for positioning

End point values	Rocuronium	Remifentanil		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	36	38		
Units: Yes				
Yes	24	28		

Statistical analyses

Statistical analysis title	Chi Square
Comparison groups	Remifentanil v Rocuronium
Number of subjects included in analysis	74
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.51
Method	Chi-squared
Parameter estimate	Risk difference (RD)
Point estimate	0.07
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.13
upper limit	0.28

Secondary: Intubating difficulty score

End point title	Intubating difficulty score
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End point description:

End point type	Secondary
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End point timeframe:

At intubation

End point values	Rocuronium	Remifentanyl		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	36	38		
Units: IDS score				
median (inter-quartile range (Q1-Q3))	2 (0.5 to 4.5)	2 (0 to 4)		

Statistical analyses

Statistical analysis title	Mann Whitney's rank sum test
Comparison groups	Rocuronium v Remifentanyl
Number of subjects included in analysis	74
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.48
Method	Wilcoxon (Mann-Whitney)

Secondary: Hoarseness

End point title	Hoarseness
End point description:	
End point type	Secondary
End point timeframe:	
At 24 hours after anaesthesia	

End point values	Rocuronium	Remifentanyl		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	36	38		
Units: Yes				
yes	13	13		

Statistical analyses

Statistical analysis title	Chi square
Comparison groups	Rocuronium v Remifentanyl

Number of subjects included in analysis	74
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.86
Method	Chi-squared
Parameter estimate	Risk difference (RD)
Point estimate	0.02
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.24
upper limit	0.2

Secondary: Sore throat

End point title	Sore throat
End point description:	
End point type	Secondary
End point timeframe:	
At 24 hours after anaesthesia	

End point values	Rocuronium	Remifentanil		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	36	38		
Units: Yes				
Yes	5	2		

Statistical analyses

Statistical analysis title	Chi square
Comparison groups	Remifentanil v Rocuronium
Number of subjects included in analysis	74
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.2
Method	Chi-squared
Parameter estimate	Risk difference (RD)
Point estimate	-0.09
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.22
upper limit	0.05

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

Three days after surgery

Assessment type	Systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	23
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Reporting groups

Reporting group title	Remifentanil
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Reporting group description: -

Reporting group title	Rocuronium
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Reporting group description: -

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: We only considered drug-specific AE according to the product summary

Serious adverse events	Remifentanil	Rocuronium	
Total subjects affected by serious adverse events			
subjects affected / exposed	8 / 38 (21.05%)	4 / 36 (11.11%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Surgical and medical procedures			
Prolonged hospitalisation			
subjects affected / exposed	8 / 38 (21.05%)	4 / 36 (11.11%)	
occurrences causally related to treatment / all	0 / 8	0 / 4	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Remifentanil	Rocuronium	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 38 (0.00%)	0 / 36 (0.00%)	

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? Yes

Date	Interruption	Restart date
20 March 2020	COVID-19	20 April 2020

Notes:

Limitations and caveats

None reported