

**Neurological complications after transcatheter aortic
valve implantation with a self-expanding bioprosthesis or
surgical aortic valve replacement in patients at
intermediate-risk for surgery**

On behalf of the SURTAVI investigators

A Pieter Kappetein
Dept. Cardio-Thoracic Surgery
Erasmus University Medical Center
Rotterdam, The Netherlands

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Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

Affiliation/Financial Relationship

- Sponsor of SURTAVI

Company

- Medtronic

All TVT 2017 faculty disclosures are listed online and on the app.

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Background

- As TAVI continues to be clinically evaluated in lower-risk populations, an understanding of the relative risk for neurological complications and their clinical consequences following SAVR and TAVI is critical.

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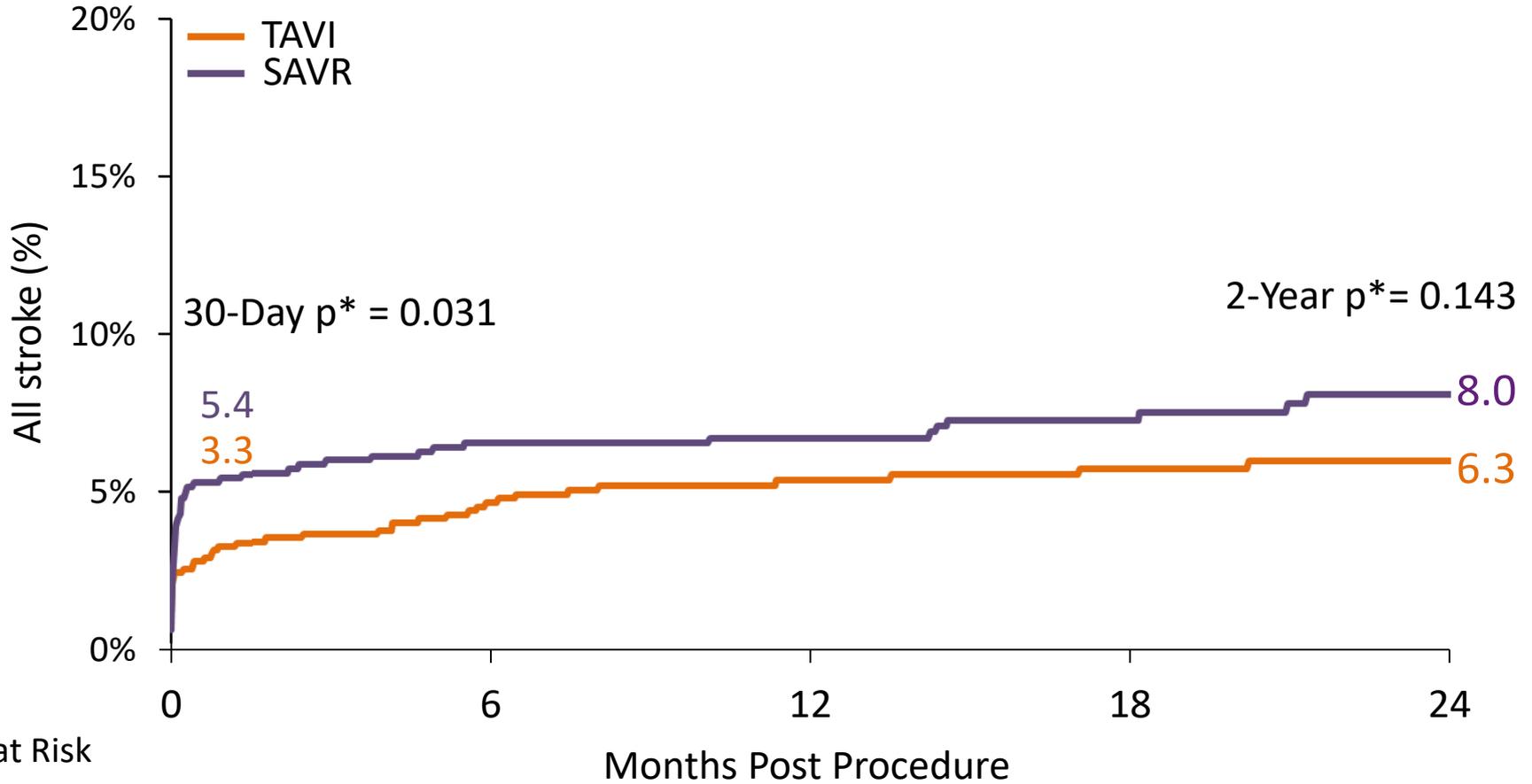
Neurological assessments

	NIH Stroke Scale	Modified Rankin Score *	Mini-Mental State Exam*	Additional Assessments*†
Baseline	●	●	●	●
Post procedure	●			
Discharge	●	●	●	●
30 Days	●			
6 Months	●			
12 Months	●	●	●	●
18 Months	●			
24 Months	●	●	●	●
3 – 5 Years	●			

*By neurologist or stroke specialist. †Additional testing included; field testing and gait, writing, drawing, and hand function assessments.

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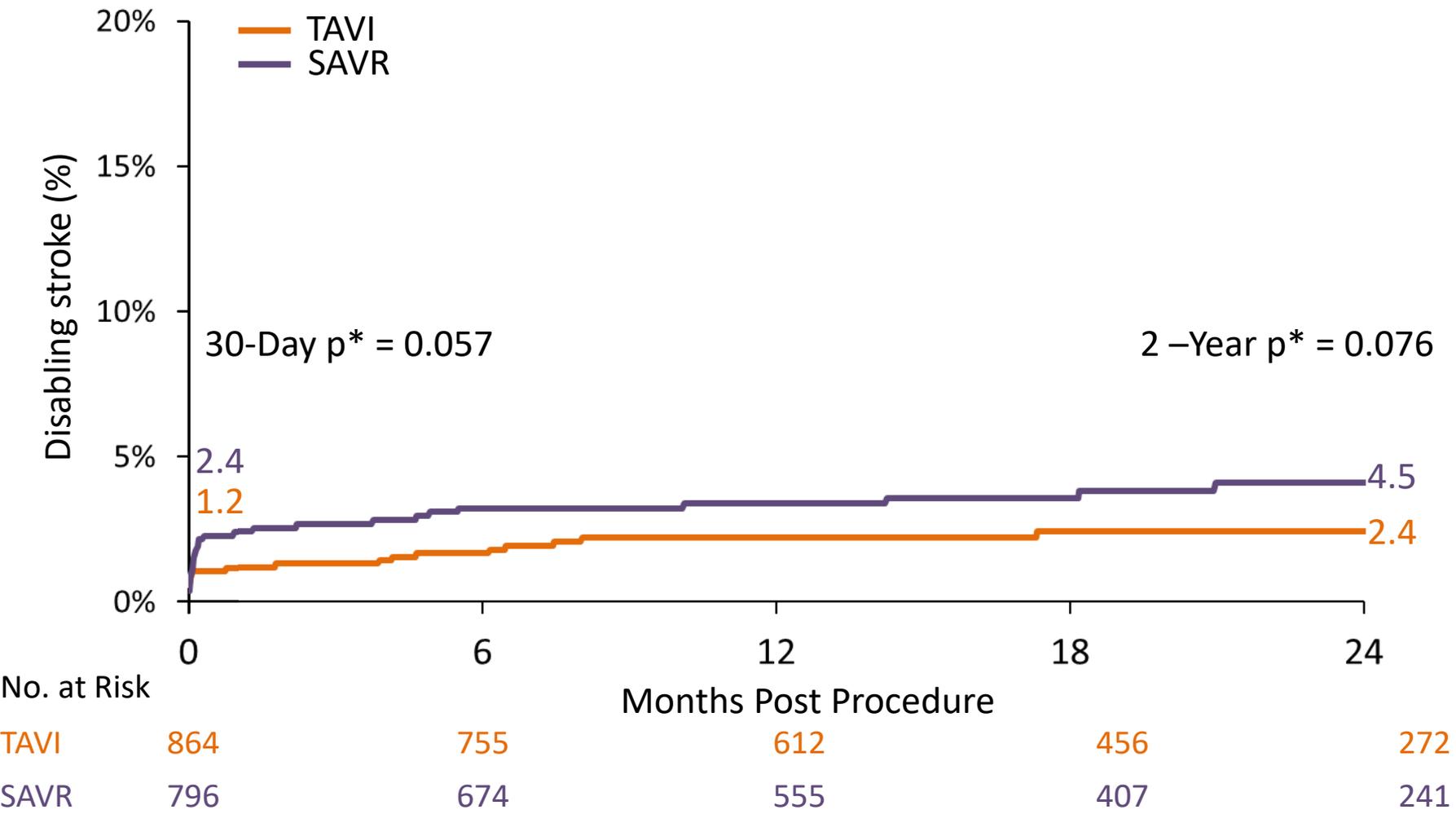
Incidence of all stroke



* log-rank

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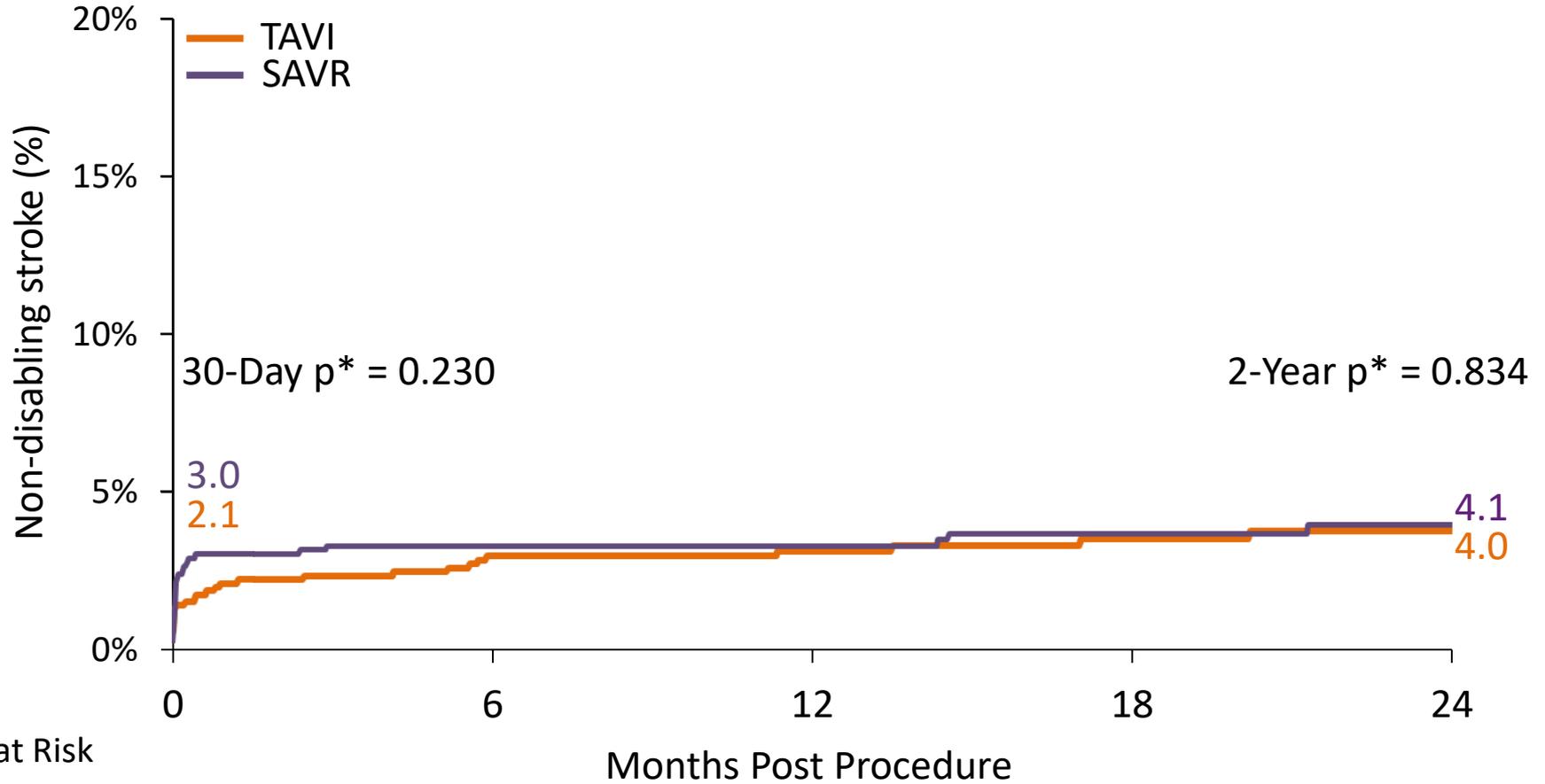
Incidence of disabling stroke



* log-rank

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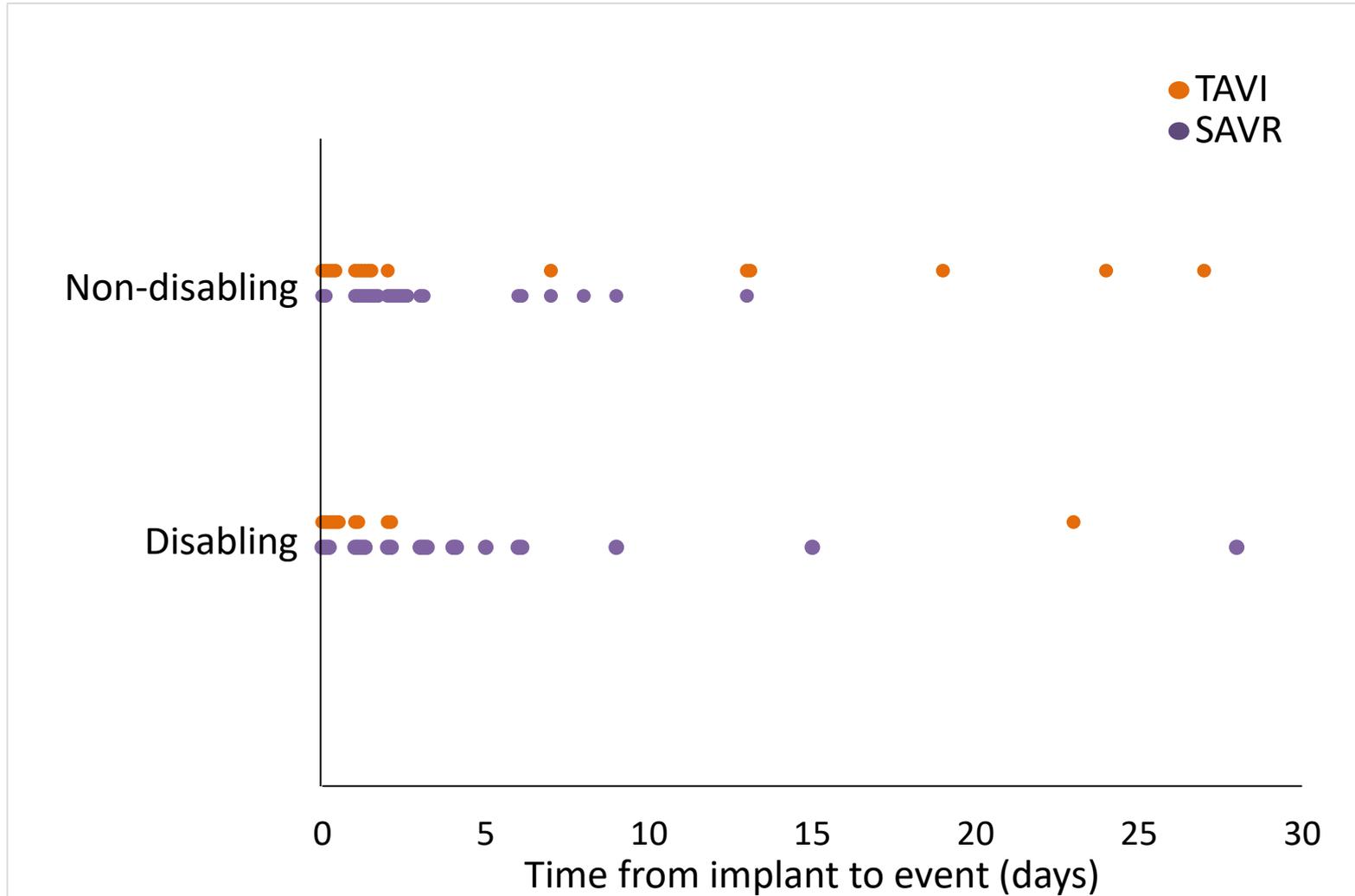
Incidence of non-disabling stroke



* log-rank

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Timing of early strokes



TAVI baseline data: early vs no stroke

Mean \pm SD or %	Stroke N=28	No Stroke N=836	P Value
Age, years	78.5 \pm 8.2	80.0 \pm 6.1	0.35
Male sex	50.0	57.9	0.41
STS Risk of mortality, %	4.4 \pm 1.7	4.4 \pm 1.5	0.89
History of hypertension	96.4	92.6	0.72
Diabetes mellitus	35.7	34.1	0.86
Peripheral vascular disease	28.6	30.9	0.80
Severe aortic calcification	14.3	12.4	0.77

SAVR baseline data: early vs no stroke

Mean \pm SD or %	Stroke N=43	No Stroke N=753	P Value
Age, years	80.3 \pm 6.9	79.7 \pm 6.0	0.54
Male sex	58.1	54.8	0.67
STS Risk of mortality, %	4.4 \pm 1.6	4.5 \pm 1.6	0.55
History of hypertension	79.1	91.0	0.01
Diabetes mellitus	34.9	34.8	0.99
Peripheral vascular disease	30.2	29.9	0.96
Severe aortic calcification	16.3	10.5	0.23

TAVI hospitalisation data: early vs no stroke

Mean \pm SD, or %	Stroke N=28	No Stroke N=836	P Value
ICU duration, hours	88 \pm 88	47 \pm 41	0.03
Length of stay, days	9 \pm 5	6 \pm 5	<0.001
Discharge Location			<0.001
Home	36	87	
Another hospital	4	1	
Rehabilitation clinic	32	6	
Skilled nursing facility	14	4	
Other	4	1	
Patient died in hospital	11	1	

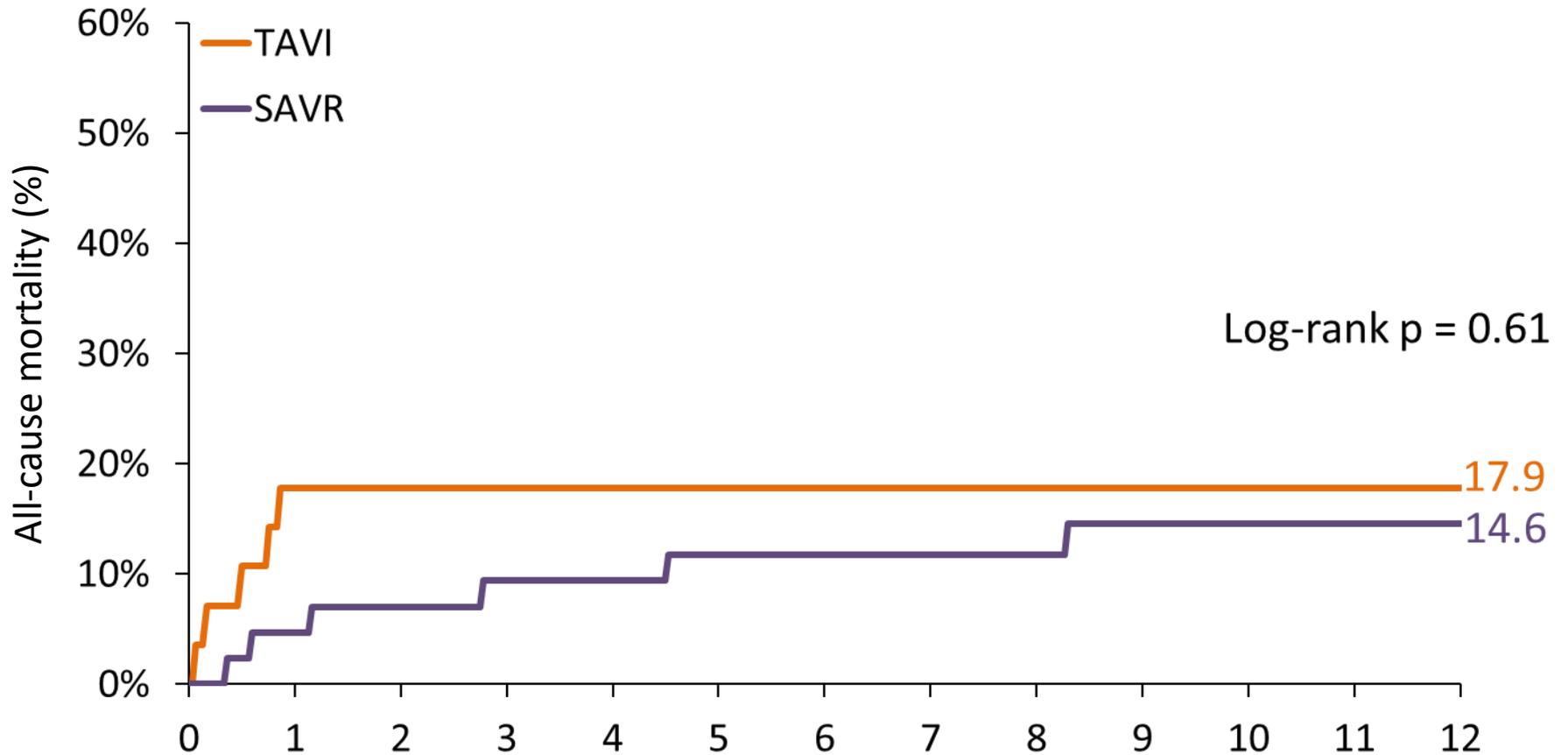
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SAVR hospitalisation data: early vs no stroke

Mean \pm SD, or %	Stroke N=43	No Stroke N=796	P Value
ICU duration, hours	125 \pm 197	67 \pm 86	0.06
Length of stay, days	13 \pm 8	10 \pm 8.0	0.02
Discharge Location			0.002
Home	28	56	
Another hospital	5	4	
Rehabilitation clinic	42	21	
Skilled nursing facility	12	13	
Other	12	5	
Patient died in hospital	2	1	

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Mortality in patients with early stroke

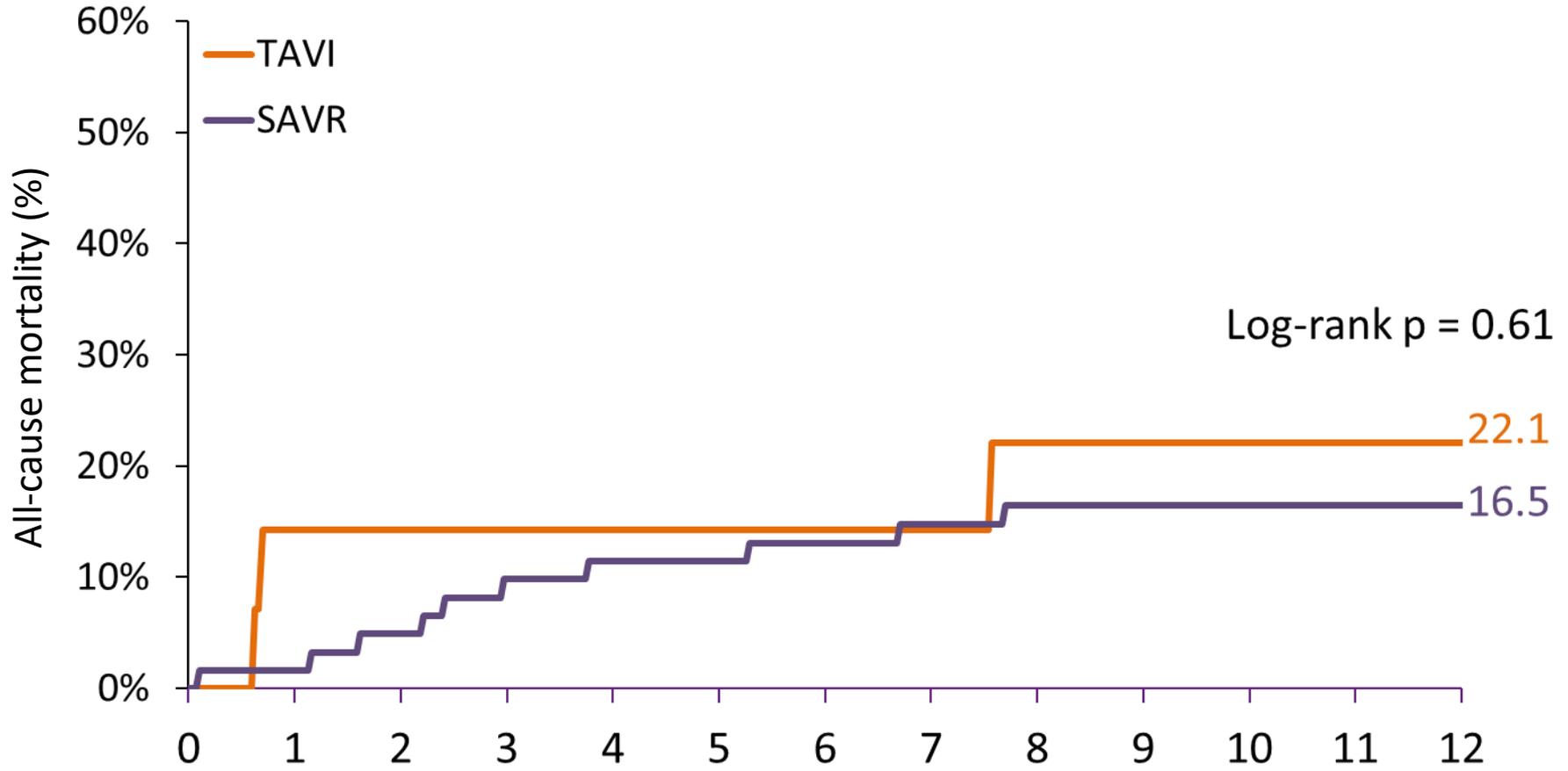


No. at Risk

TAVI	28	22	18
SAVR	43	34	28

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Mortality in patients with early encephalopathy



No. at Risk

TAVI	14	12	9
SAVR	62	52	45

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Summary

- Incidence of early (30-day) stroke was significantly lower in patients after TAVI than after SAVR.
- Early stroke patients experienced
 - longer ICU times
 - more days in hospital
 - more frequently discharged to an alternate care facility regardless of treatment group.
- With or without stroke, TAVI patients recovered quality of life sooner than SAVR patients.
- All-cause mortality at 1 year was similar for TAVI and SAVR patients with stroke or with encephalopathy at 30 days.
- There were no differences in early stroke rates among TAVI and SAVR patients for select subgroups.