Comparison of clinical outcomes after transcarotid and transsubclavian versus transfemoral TAVI: a propensity-matched analysis

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Transcarotid (TC) and transsubclavian (TSc) accesses are increasingly used as alternative approaches for TAVI when the transfemoral (TF) access is not suitable. However, concerns remain about the risk of peri-procedural stroke and long-term outcomes following TC or TSc TAVI.

The present study sought to compare early- and long-term outcomes of TC/TSc vs. TF TAVI after propensity-score matching.

260 patients who underwent TAVI through a TF (n=220), TC (n=32) or TSc (n=8) approach at our institution during a 4 years period were identified. A 1:1 matching based on the propensity-score was performed, leading to a population of 40 TF and 40 TC/TSc. Primary endpoints were early complications whereas secondary endpoints were long-term outcomes.

There was no difference in the baseline characteristics. At 30-day post-TAVI, there was no difference in mortality and stroke rates between TF and TC/TSc TAVI (5% vs. 5% mortality, p=1.0 and 2 vs. 1 stroke, p=1.0). After a median follow-up of 21 months, the risk of death (p=0.950), stroke (p=0.817) and myocardial infarction (p=0.155) did not differ between the 2 groups.

After propensity-score matching, no significant difference in early and longterm outcomes was observed between TF and TSc/TSc TAVI. These findings should encourage Heart-Teams to consider a TC or TSc approach when TF access is not available.

		Table 1. 30-day and 1-year outcomes according to the arterial access (TF vs. TC/TSc)												
		Variables			Т	F-TAVI (n=4	0)	TC/TSc-TAVI (n=40)		0) p	o-value			
		30-day outcomes												
	All-cause mortality						2 (5.0)		2 (5.0)			1.000		
		All-stroke Life-threatening bleeding Acute kidney injury stage 2 or 3 Major vascular complication Coronary obstruction Each variest composite androiset (VADC 2)						2 (5.0) 4 (10.0) 2 (5.0)		1 (2.5) 1 (2.5) 1 (2.5)			1.000 0.375 1.000	
								6 (15.0)		6 (15.0)			1.000	
								0 10 (25.0)		0			-	
		Early safety composite endpoint (VARC-2) 1-year outcomes All-cause mortality						6 (15.0)		8 (20.0) 7 (17.5)			0.804	
	Cardiovascular mortality						5 (12.5)		3 (7.5)			0.727		
		Stroke Myocardial infarction						3 (7.5)		2 (5.0) 2 (5)			1.000	
								0 (0)						
	MACCE						8 (20.0)		9 (22.5)			1.000		
			ssion for	heart fa	ailure			6 (15.0)		2 (0.219	
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A								в						
	100						TE	1	100-	7				
Overall Survival		·~	_				TF	5						TF
	80-			1			TC/TSc	CC .	80-					- TC/TSc
	60-							Survival Free of Myocardial Infarction	60-					
		p=0.950						val		p=0.155				
	40-	p=0.950					Cal La	40-						
	20-							Ayo S	20-					
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с														
C								D						
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9			1				TF	se Ca	100-	L				— TF
to	80-					-	TC/TSc	Str	80-	and the second	1.2			- TC/TSc
of S	60-							Lon Lon				1	L	- 10/130
8								E of D	60-	1		-		
Ľ,	40-		p=0.817					Deat	40-		p=0.855	5		
Survival Free of Stroke								Survival Free of Death From Any Cause. Mycoardial Infaction or Stroke						
Sur	20-							ree	20-					
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	Ó	i		2	3			NV.		0 1		2	3	
			Years								Years			
Patients at risk	c 40	28		21 12	93			Patients at ris	sk: 4	40 28 10 25		21 12	9	

Figure: Kaplan-Meier Analysis for Overall Survival (A), Myocardial Infarction (B), Stroke (C) and MACCE (D) according to the arterial access (Transfemoral (TF) vs. Transcarotid (TC)/Transsubclavian (TSC))

Figure 1