

Sheathless guiding catheter versus “slender” sheath/guiding catheter combination in acute coronary syndrome: a propensity-matched analysis of two downsized devices

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Purpose: We investigated the differences between a sheathless guiding catheter and a Glidesheath slender/guiding catheter combination regarding access-site complications in percutaneous coronary intervention (PCI) for acute coronary syndrome (ACS).

Methods: We enrolled consecutive 1108 patients undergoing transradial primary PCI for ACS at our hospital using either a 7.5-Fr sheathless guiding catheter (Sheathless group) or a 7-Fr Glidesheath slender/7-Fr guiding catheter combination (Glidesheath group); 1:1 propensity score matching was performed, and 718 subjects (359 in each group) were included in the propensity-matched sample.

Results: Compared with the Sheathless group, the Glidesheath group had significantly less frequent ultrasound-diagnosed radial artery occlusion at 30 days (Sheathless: 4.7% vs. Glidesheath: 1.4%, $p=0.015$). No significant differences were observed in severe radial spasm (Sheathless: 1.4% vs. Glidesheath: 2.0%, $p=0.77$) or access-site bleeding (Sheathless: 9.8% vs. Glidesheath: 8.6%, $p=0.70$).

Conclusion: Thus, 7-Fr Glidesheath slender/7-Fr guiding catheter combination is clearly more advantageous than 7.5-Fr sheathless guiding catheters for decreased risk of radial artery occlusion in transradial PCI for ACS.

Procedural outcomes and complications

Variables	Total population				Propensity-matched population			
	Sheathless (n=711)	Glidesheath (n=397)	OR (95% CI)	p	Sheathless (n=359)	Glidesheath (n=359)	OR (95% CI)	p
RAO at 30 days	25 (3.5)	6 (1.5)	2.37 (0.96–5.84)	0.058	17 (4.7)	5 (1.4)	3.52 (1.28–9.64)	0.015*
Severe radial spasm	11 (1.6)	9 (2.3)	0.68 (0.28–1.66)	0.48	5 (1.4)	7 (2.0)	0.71 (0.22–2.27)	0.77
Access-site bleeding								
BARC type 2 or 3	72 (10.1)	32 (8.1)	1.29 (0.83–1.99)	0.28	35 (9.8)	31 (8.6)	1.14 (0.69–1.90)	0.70
BARC type 3	9 (1.3)	5 (1.3)	1.01 (0.33–3.02)	1.0	4 (1.1)	4 (1.1)	1.69 (0.40–7.18)	0.72
Coronary ostial dissection	10 (1.4)	3 (0.8)	1.87 (0.51–6.85)	0.40	6 (1.7)	2 (0.6)	3.03 (0.61–15.13)	0.29
Procedural success	702 (98.7)	392 (98.7)	0.99 (0.33–2.99)	1.0	354 (98.6)	354 (98.6)	1.00 (0.29–3.48)	1.0
MACCEs within 30 days	10 (1.4)	14 (3.5)	0.39 (0.17–0.89)	0.029*	7 (2.0)	12 (3.3)	0.58 (0.22–1.48)	0.12

Data are presented as median (interquartile range) or n (%), unless otherwise indicated. “Sheathless” denotes the 7.5-Fr sheathless guiding catheter group, and “Glidesheath” denotes the 7-Fr Glidesheath slender/7-Fr guiding catheter combination group. The asterisk denotes a statistically significant difference between the two groups. BARC, Bleeding Academic Research Consortium; CI, confidence interval; MACCEs, major adverse cardiac and cerebrovascular events; N/A, not applicable; OR, odds ratio; RAO, radial artery occlusion. MACCEs include all-cause death, myocardial infarction, stent thrombosis, target-lesion revascularization, and stroke.

