

Tricks of dual lumen microcatheter-facilitated reverse wire technique in percutaneous coronary intervention for markedly angulated bifurcated lesions

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Background: The dual lumen microcatheter-facilitated reverse wire technique has been developed as a last resort for guidewire passage into a highly angulated side branch. **Results:** We retrospectively evaluated lesion characteristics and details of percutaneous coronary intervention (PCI) procedures in 10 consecutive cases in which the reverse wire technique was applied. Three operators with various levels of experience in PCI performed this technique. A polymer-jacket hydrophilic-coated guidewire was used except in one case. Because most cases had significant stenoses proximal to the bifurcation, we adopted a sharp curve for reverse bend curve to facilitate the delivery of the reverse wire system in 9 cases. After crossing the guidewire with a sharp curve into a side branch, we exchanged the guidewire for a new one using an ordinary microcatheter. Dual stent strategy was performed in three cases, and we successfully performed PCI procedures in all cases. **Conclusions:** The reverse wire technique could be performed safely and effectively. We recommend a polymer-jacket hydrophilic-coated guidewire with a sharp curve for this technique in principle.

Case number	1	2	3	4	5	6	7	8	9	10
Take-off angle (degree)	109	106	101	88	77	72	57	53	45	40
Corina angle (degree)	102	71	117	109	119	117	73	123	136	147
Lesion	Distal LMCA	Distal LMCA	LCX-OM	Distal RCA	Distal RCA	LAD-D1	Prox. LCX	Prox. RCA	LCX-OM	LAD-D2
Medina classification	1,1,1	1,0,0	1,0,1	1,1,1	1,0,1	1,0,1	0,0,1	1,0,1	1,0,1	1,0,1
Sex	65	68	80	70	67	63	92	85	53	85
Age (y.o.)	M	F	M	F	F	F	F	F	M	M
PCI status	Elective	Ad hoc	Ad hoc	Ad hoc	Ad hoc	Ad hoc	Ad hoc	Elective	Elective	Elective
Approach	Femoral	Radial	Radial	Femoral	Radial	Radial	Radial	Radial	Radial	Femoral
Guide catheter (F)	7	6	6	7	6	6	6	6	6	7
Guide wire	Fielder FC	Fielder FC	Fielder FC	Fielder	Sion	Sion black	Fielder FC	Fielder FC	Fielder FC	Fielder FC
Micro catheter	Soriana FX	Mizuki FX	Mizuki FX	Fincross MG	Crusade	Fincross GT	Mizuki FX	Mizuki FX	Mizuki FX	Mizuki FX
Stent type in MV	BES	ZES	ZES	CoCr-EES	ZES	CoCr-EES	—	BES	—	PlCr-EES
Stent type in SB	BES	—	—	—	—	CoCr-EES	—	—	—	PlCr-EES
Stenting strategy	Culotte	Single	Single	Single	Single	Crush	POBA	Single	POBA	Mini crush
Final KSI	+	+	+	+	+	+	+	+	+	+
Irradiation time (min)	37	54	74	78	41	39	67	23	45	34
CM volume (mL)	133	205	258	300	208	189	144	72	162	93