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Clinical Characteristics and Midterm Outcomes of Chronic Total Coronary Occlusion Intervention According to the Different Collateral Grades

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Background It is not clear whether different collateral grade will have impact on the angiographic and clinical outcomes of CTO intervention in drug eluting stent (DES) era. Methods A total of 177 patients (pts) underwent CTO intervention were divided into the two groups according to the grade of collateral vessels (collateral grade 2,3 : n=99 pta, Collateral grade 1: n=78 pts). The collateral vessels were graded according to the Rentrop classification. In-hospital and 6-month outcomes were compared between the 2 groups. Results The baseline clinical characteristics were similar between the two groups. The overall procedural success rate is similar (98% vs 97.9%, p=0.10). At 6 months, these two groups had similar clinical outcomes and angiographic outcomes including the rate of binary restenosis, late loss, death, Q-MI, TVR and MACE (Table). Conclusions CTO intervention in the setting of different collateral grade showed similar safety profile, procedural success rate, complication rate and mid-term outcomes, possibly due to high procedural success rate by improved devices, technical development and the DES usage.

Table. Angiographic and Clinical Outcomes at 6 months

Variables, n (%)	Collateral grade 2,3 (n = 99 pts)	Collateral grade 1 (n = 78 pts)	P Value
Previous_MI	16 (15.7)	13 (16.7)	1.00
Success rate	98 (97)	70 (90.9)	0.10
Binary stenosis	23 (23.2)	23 (29.4)	0.68
Late loss (mm, mean ± SD)	0.52 ± 0.55	0.70 ± 0.63	0.36
Cardiac death	0 (0.0)	0 (0.0)	1.00
Total death	0 (0.0)	1 (1.5)	0.45
Q-wave MI	0 (0.0)	1 (1.5)	0.45
TLR	2 (2.5)	6 (9.1)	0.14
TVR	3 (3.8)	6 (9.1)	0.62
All MACE	4 (5.1)	6 (9.1)	0.51