POSTERS

TCT-444

Chronic Total Occlusion Lesion Revascularization Alone versus Complete Revascularization in Chronic Total Occlusion Patients with Multivessel Disease

Seung-Woon Rha[1], Byoung Geol Choi[1], Se Yeon Choi[1], Sung Il Im[1], Sun Won Kim[1], Jin Oh Na[1], Seong Woo Han[1], Cheol Ung Choi[1], Hong Euy Lim[1], Jin Won Kim[1], Eung Ju Kim[1], Chang Gyu Park[1], Hong Seog Seo[1], Dong Joo Oh[1]
[1]Cardiovascular Center, Korea University Guro Hospital, Seoul, Korea, Republic of

Background: Chronic total occlusion (CTO) intervention is still challenging because of the limited procedural success rate and higher recurrence. It is not clear whether the complete revascularization will significantly impact on angiographic and clinical outcomes of CTO patients (pts) with multivessel disease (MVD).
Methods: A total of 138 consecutive CTO pts with MVD were divided into two groups; complete revascularization (CR, n=82) and CTO alone revascularization (CTO Alone, n=54) groups. Six-month angiographic and twelve-month clinical outcomes were compared between the two groups.
Results: The baseline clinical characteristics were balanced between the two groups except higher incidence of hypertension (73.8 vs. 57.3 p=0.035) and a lower incidence of Prior PTCA (12.5 vs. 34.4 p=0.001) in the CR group. The overall procedural success rate, procedural characteristics and procedure related complications associated with CTO were not different between the two groups. Angiographic outcomes at 6 months were not different. There was a trend toward higher incidence of target lesion revascularization (TLR)-major adverse cardiac events (MACE) in the CR group, predominatly due to higher incidence of TLR and repeat PCI 24 months as compared with CTO alone group (Table).
Conclusions: CR strategy in CTO pts with MVD failed to show the clinical benefit up to 24 months as compared with CTO alone revascularization. This is a hypothesis generating result and randomized study with larger study population will be necessary to get final conclusion.

Table. Six-month Angiographic and 24-month Clinical Outcomes

6 Month Angiographic Outcomes	Complete Revasc (n = 82 pts)	CTO Alone Revasc (n = 54 pts)	P-value
Binary restenosis (>50%)	9/56 (16)	7/29 (24.1)	0.367
Mean DS%	29.69 ± 26.65	26.36 ± 24.94	0.441
FU MLD (mm)	2.075 ± 0.836	2.226 ± 0.805	0.268
Late Loss (mm)	0.616 ± 0.769	0.554 ± 0.728	0.620
24-Month Clinical Outcomes			**P-value**
Total death	4 (4.8)	4 (7.4)	0.541
Cardiac death	3 (3.6)	1 (1.8)	0.542
Any MI	3 (3.6)	1 (1.8)	0.542
Q wave	3 (3.6)	1 (1.8)	0.542
Repeat PCI	21 (25.6)	6 (11.1)	0.038
TLR	14 (17)	3 (5.5)	0.047
TVR	17 (20.7)	5 (9.2)	0.075
All MACE	24 (29.2)	10 (18.5)	0.157
TLR MACE	15 (18.2)	4 (7.4)	0.073

TCT-445

Radial Versus Femoral Access for Percutaneous Coronary Interventions in Patients With Chronic Total Occlusion

Giuseppe Ferrante[1], Yves Louvard[1], Kentaro Hayashida[1], Hakim Benamer[1], Thomas Hovasse[1], Thierry Unterseeh[2], Philippe Garot[2], Thierry Lefèvre[1]
[1]ICPS, Massy, France, [2]ICPS, Quincy, France

Background: Introduction Femoral access (FEM) is usually employed in percutaneous coronary intervention (PCI) for chronic total occlusions (CTO) because this is considered to provide better catheter support, and allows the use of larger diameter guiding catheters. Hypothesis We assessed the hypothesis that the use of radial access (RAD), which is typically 6-Fr catheter compatible, is comparable to FEM with respect to procedural success for CTO.
Methods: Methods The study included all consecutive patients undergoing PCI for CTO at 3 tertiary PCI centres between January 2004 and December 2011. CTO lesions were graded as easy (score of 0), intermediate (1), difficult (2), and "very difficult" (≥3), according to the angiographic J-CTO score. A multivariable mixed effect logistic regression for clustered data was used to assess the impact of RAD on PCI success after adjustment for patient characteristics, lesion difficulty graded by angiographic score, vessel site, procedural techniques.
Results: Results A total of 1249 patients, median age 63 yrs-old (55-72, 25th-75th percentile) undergoing PCI for 1402 CTO were included. RAD was used in 848 (60.5%) lesions. The use of 7-Fr (0.8% vs. 6.7%, p<0.001) or 8-Fr (0% vs 4.15%, p <0.001) guiding catheters was significantly lower in the RAD group than in the FEM group. The prevalence of difficult lesions (J-CTO score ≥ 2) was lower in the RAD group than in the FEM group (39.4% vs 48.4%, p=0.001). The use of 7-Fr or 8-Fr guiding catheters was higher in lesions with J-CTO score ≥ 2 than in those with J-CTO score (6.1% vs 2.1%, p<0.001). PCI success rate was slightly higher in the RAD group than in the FEM group (72.6% vs. 68.4%), although this difference did not achieve the statistical significance (p=0.09). At multivariable logistic regression the use of RAD, as compared to FEM, was not associated with procedural success (odds ratio 1.14, 95% confidence interval (CI) 0.88-1.48, p=0.33).
Conclusions: Conclusions The use of RAD for PCI of CTO is feasible in the vast majority of lesions and it is associated with a comparable success rate to that achieved using FEM.

TCT-446

Long-Term Clinical Outcomes after Percutaneous Coronary Intervention for Chronic Total Occlusions in Elderly Patients (≥75 years): Five-Year Outcomes from a 1,791 Patient Multi-National Registry

Loes Hoebers[1], Bimmer Claessen[2], George Dangas[3], Antonio Colombo[4], Carlo DiMario[5], Jose Henriques[6], Martin Leon[7], Gregg Stone[8], Jeffrey Moses[8], Seung-Jung Park[9], Roxana Mehran[10]
[1]Academic Medical Center, Amsterdam, Netherlands, [2]Academic Medical Center - University of Amsterdam, Amsterdam, Noord-Holland, [3]Department of Cardiology, Mount Sinai Medical Center, New York, New York City, NY, [4]EMO GVM Centro Cuore Columbus srl, Milan, Italy, [5]Royal Brompton Hospital, London, United Kingdom, [6]Academic Medical Center - University of Amsterdam, Amsterdam, Netherlands, [7]Cardiovascular Research Foundation, New York, USA, [8]Columbia University Medical Center and the Cardiovascular Research Foundation, New York, NY, [9]Asan Medical Center, Seoul, South Korea, [10]Mount Sinai Hosptial, New York, USA

Background: Little is known about procedural success rates and long-term clinical outcomes of percutaneous coronary intervention (PCI) of chronic total occlusions (CTO) in elderly patients (≥75 years).
Methods: Between 1998 and 2007, a total of 1791 pts with 1852 CTO underwent PCI at three centers in the US, Italy and South Korea. Time-to-event analyses were performed and differences evaluated between pts aged ≥75 vs. <75 years.
Results: A total of 213 patients (12%) were aged ≥75 years. The median [IQR] age in this cohort was 78 [76, 81] years. Compared with patients < 75 years, elderly patients were more often female, more often had a history of chronic kidney disease and prior CABG, and had a lower pre-procedural left ventricular ejection fraction.Procedural success rates were similar in elderly patients compared with those <75 years (63.8% vs. 69.1%, p=0.12). After successful CTO recanalization stents were implanted in 98% of elderly patients (41% bare metal stents, 59% drug-eluting stents). Median follow-up was 1054 [530-1690] days . Five-year event rates are shown in table 1. In elderly patients who underwent stent implantation after CTO PCI, the difference in TVR with BMS compared to DES did not reach statistical significance (17.4% vs. 27.2%, p=0.40) There were 2 cases of definite/probable stent thrombosis in both the BMS and the DES groups.

Table 1 Five-year clinical outcomes aftes successful vs failed CTO PCI in patients aged ≥75 years and patients aged <75 years.

	Age ≥75 years (n=213, 11.9%)			Age <75 years (n=1578, 88.1%)		
	Successful PCI (n=136, 63.8%)	Failed PCI (n=77, 36.2%)	P	Successful PCI (n=1090, 69.1%)	Failed PCI (n=488, 30.9%)	P
MACE	25.8%	42.3%	0.02	11.2%	20.8%	<0.01
Death	19.6%	24.6%	0.13	4.4%	6.1%	0.052
MI	11.5%	8.0%	0.87	5.1%	5.1%	0.89
CABG	0.0%	20.4%	<0.01	3.6%	12.7%	<0.01

Conclusions: The success rate for CTO PCI is similar in patients aged ≥75 years as for those <75 years. In elderly patients undergoing CTO PCI, successful revascularization is associated with a reduction in MACE at 5-year follow-up, principally due to a reduced need for CABG.

TCT-447

Effects of Vibration on Frictional Resistance during Angioplasty Device Insertion: Possible Application of a Newly Designed Support System to Complex Coronary Intervention

Satoru Sakamoto[1], Tomohiro Sakamoto[1], Eiji Taguchi[1], Koichi Nakao[1]
[1]Saiseikai Kumamoto Hospital Cardiovascular Center, Kumamoto City, Kumamoto

Background: Catheter intervention is now one of popular medical procedures performed widely over the world because of device improvement and several new technique introductions. However, sometimes we face to technical problem when we deliver balloon catheters in target lesion with heavy calcification or chronic total occlusion.
Methods: We applied an actuator driven by liner motor from ordinary electric razor ES-LT20 (Panasonic Corporation, Osaka, Japan) for a new support system that decreases friction resistance during catheter insertion to coronary arteries by generating adequate vibration frequency. A phantom model of coronary intervention was assembled using test vessels, guide wires and balloon catheters to evaluate the effects of the new support system. We compared peak force, or friction resistance for catheter insertion with the new support system to that without it by a digital force gauge, DPX5-T (IMADA Corporation, Aichi, Japan).