complications. Because CTO PCI became relatively common and carries a lot more challenges and complications, it is imperative for patients with CTO to be identified in clinical trials. This implies that modifying our techniques, upgrading our practice and education promoting should be emphasized in future, which may further shorten the time of CTO PCI and reduce the hazards it carries.

CRT-100.74

Impact of Myocardial Infarction on 5-year Clinical Outcomes of Patients with Coronary Chronic Total Occlusion Lesion

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BACKGROUND Myocardial infarction (MI) can lead to worsening cardiovascular morbidity and mortality. However, there are limited data regarding the impact of MI on long-term clinical outcomes of coronary chronic total occlusion (CTO).

METHODS A total of 640 consecutive CTO pts who underwent diagnostic coronary angiography and treated by either percutaneous coronary intervention (PCI) or optimal medical treatment (OMT) were enrolled. Pts were divided into two groups according to the presence of MI; 1) the MI group (n=153) and 2) Non-MI group (n=487). To adjust for potential confounders, a propensity score matching (PSM) analysis was performed using the logistic regression model. Individual major clinical outcomes and major adverse cardiac events (MACE), the composite of total death, myocardial infarction, stroke and revascularization, were compared between the two groups up to 5 years.

RESULTS After PSM analysis, two propensity-matched groups (127 pairs, n=254, C-statistic=0.776) were generated and the baseline characteristics of the two groups were balanced. Up to 5 years, there was no significant difference in the incidence of total death, myocardial infarction, repeat revascularizations and MACE between the two groups.

CONCLUSION In this study, the MI group was not associated with further cardiovascular events compare with Non-MI group in coronary CTO pts up to 5 years. This topic may need more well-designed further studies.

Table. Cumulative Incidence of Clinical Outcomes Up to 5 Years

Variables, %	MI (n=127)	Non-MI (n=127)	p-Value
Total death	8.5 %	10.1 %	0.731
Cardiac death	5.1 %	6.0 %	0.919
Myocardial infarction	4.9 %	3.0 %	0.338
Stroke	0.0 %	0.8 %	0.317
Repeat revascularization	24.6 %	29.0 %	0.999
Target lesion (CTO vessel)	10.2 %	12.3 %	0.697
Target vessel (CTO vessel)	12.7 %	13.6 %	0.964
Non-target vessel (Non-CTO vessel)	18.1 %	20.9 %	0.877
Total MACE	32.0 %	37.0 %	0.895

Major adverse cardiac events (MACE) was defined as the composite of total death, myocardial infarction, stroke and revascularization.

CRT-100.75

Prospective Randomized Study Comparing Incidence Of Doppler Signal Flow Detected Radial Artery Occlusion Post-transradial Percutaneous Coronary Intervention Between Safeguard Radial Versus Tr Band Radial Compression Devices Using A Novel Air-inflation Technique

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INTRODUCTION Radial artery occlusion (RAO) remains a significant vascular complication post-compression device application in an era of increasing transradial percutaneous coronary intervention (PCI) use. We aimed to compare post-PCI RAO incidence between two conventional radial artery compression devices using a novel air-inflation technique.

METHODS 100 consecutive patients post-PCI were randomized 1:1 to Safeguard or TR band compression devices. Post-radial sheath removal, each compression device was inflated with additional 2mls of air above index bleeding point during air-filled device application and gradually down-titrated accordingly. RAO was defined as absence of Doppler flow signal performed at 24 hours and at 6 weeks post-PCI. Patients with missing data were excluded. Data were expressed as mean ± SD or %.

RESULTS All patients had 6F radial sheath inserted. No significant differences were observed between Safeguard Radial (n=42) versus TR band (n=42) in terms of age (63 ± 11 vs 67 ± 11 years), clinical presentation (electives, n= 18 vs 16; acute coronary syndrome, n= 24 vs 26) and total procedural heparin (7778 ± 2704 vs 7825 ± 2450 IU). RAO incidence was not significantly different between groups at 24 hours (2% vs 0%, p=0.32) and 6 weeks (0%, both).

CONCLUSION Safeguard Radial and TR band did not demonstrate significant between-group differences in short-term RAO incidence. Lack of evidence of RAO in all post-PCI patients at 6 weeks follow-up, regardless of radial compression device indicate advantage of using the novel air-inflation technique. Further work is required to more accurately confirm these findings.

CRT-100.76

In-stent Restenosis Of Second-generation Drug-eluting Stents: Incidence, Lesion Characteristics, And Outcomes Over The Last Decade. How Are They Different From De Novo Lesions?

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BACKGROUND Drug-eluting stents (DES) have decreased but not eliminated the risk of in-stent restenosis (ISR), which often results in complex repeat interventions. This study aimed to evaluate the natural course of ISR in second-generation DES by comparing them to de novo coronary artery stenosis.

METHODS We performed a retrospective analysis of patients who received at least one stent at our center from 2007 to 2016. The patients were divided into de novo coronary artery lesions only and ISR following second-generation DES. Presentation, procedure characteristics and clinical outcomes at 1 year were compared between groups.

RESULTS A total of 12,034 patients underwent percutaneous coronary intervention. Among those, 11,922 (99%) were treated for de novo lesions only and 112 (1%) were treated for ISR after second-generation DES. Of the ISR group, 77% presented with acute coronary syndrome (ACS) versus 69% of the de novo patients (p=0.07). The majority of patients with ISR presented with unstable angina and 17% presented with myocardial infarction (MI). 94% of the ISR lesions and 92% of the de novo lesions were type B or C (p=0.36). For patients with 1-year follow-up, the composite outcome of all-cause death, Q-wave MI, and target lesion revascularization occurred in 29% of the ISR group compared with 8.5% of the de novo group (p<0.0001).

CONCLUSION ISR in the contemporary DES era is modest but remains a concern. In this study, ISR patients had a similar rate of ACS as de novo patients but a higher prevalence of unstable angina. Despite similar lesion complexity, 1-year composite outcome was significantly worse in the ISR group compared with the de novo group. Efforts should target the prevention of ISR.