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TCT-100 Real-World Experience and Outcomes of Protected Versus Unprotected Left Main Percutaneous Coronary Intervention: Insights From the VA CART Program

Y Hussain

Pedro Engel Gonzalez
Henry Ford Health, pengel1@hfhs.org

R Khera

S Banerjee

A Hebbe

See next page for additional authors

Authors

Y Hussain, Pedro Engel Gonzalez, R Khera, S Banerjee, A Hebbe, M Plomondon, S Waldo, S Pfau, J Curtis, and S Shah

BACKGROUND The optimal duration of dual antiplatelet therapy (DAPT) in patients with high bleeding risk (HBR) undergoing percutaneous coronary intervention (PCI) varies based on individual clinical and lesion characteristics. It is unknown whether patients with HBR and bifurcation lesions can be safely treated with an abbreviated DAPT. In this analysis, we examined ischemic and bleeding outcomes at 1 year in patients with and without bifurcations who underwent PCI in the Onyx ONE Clear study.

METHODS Patients meeting at least 1 HBR criterion undergoing PCI with Resolute Onyx zotarolimus-eluting stents (Medtronic) were enrolled. DAPT was required for the first month post-procedure and single antiplatelet therapy (SAPT) thereafter. In this analysis, 1-year outcomes were assessed in patients with and without treated index procedure bifurcation lesions as reported by the study investigators.

RESULTS Of 1,506 patients in the Onyx ONE Clear study, 218 (14.5%) had treated index procedure bifurcation lesions. Among these, 89% were treated with a provisional stenting technique and 11% with a 2-stent technique. Patients with versus without bifurcation lesions had similar baseline clinical characteristics; however, procedure time was greater for patients with bifurcations (49.2 ± 3 4.6 vs 40.6 ± 28.7 minutes, $P < 0.001$), as was total stent length (45.3 ± 32.5 vs 35.5 ± 24.9 mm, $P < 0.001$). SAPT use after 1 month was 97% for patients both with and without bifurcations. The primary study endpoint of composite cardiac death or myocardial infarction at 1 year was nonsignificantly different but was numerically higher for patients with versus without bifurcations (9.8% vs 6.5%, $P = 0.08$), as were the rates of other ischemic events (Table 1). Conversely, major bleeding events (Bleeding Academic Research Consortium [BARC] 3-5) were less prevalent for patients with bifurcations, in part relating to differences in rates of oral anticoagulation between groups.

	Bifurcation (N = 214)	Non-bifurcation (N = 1277)	Difference (95% CI)	*P* value
Cardiac death or MI	9.8% (21)	6.5% (83)	3.3% (-0.9%, 7.5%)	0.08
Cardiac death or target vessel MI	9.3% (20)	6.0% (77)	3.3% (-0.8%, 7.4%)	0.07
Target-lesion failure*	10.7% (23)	7.7% (98)	3.1% (-1.3%, 7.5%)	0.14
Target-vessel failure†	10.7% (23)	8.5% (108)	2.3% (-2.1%, 6.7%)	0.30
Clinically driven TLR	4.7% (10)	3.1% (40)	1.5% (-1.4%, 4.5%)	0.30
Clinically driven TVR	4.7% (10)	4.2% (54)	0.4% (-2.6%, 3.5%)	0.72
ARC def/prob stent thrombosis	1.4% (3)	0.5% (7)	0.9% (-0.8%, 2.5%)	0.16
BARC 3-5 bleeding	1.4% (3)	4.5% (57)	-3.1% (-5.0%, -1.1%)	0.04

*Cardiac death, target vessel myocardial infarction or clinically-driven target lesion revascularization.
†Cardiac death, target vessel myocardial infarction or clinically-driven target vessel revascularization.

CONCLUSION In the Onyx ONE Clear study, patients with HBR and bifurcations treated with Resolute Onyx zotarolimus-eluting stents and only 1-month DAPT tended to have nonsignificantly different but numerically slightly higher ischemic event rates and less major bleeding compared with patients without bifurcation lesions. Further studies are required to determine the optimal DAPT duration following PCI for HBR patients with coronary bifurcation lesions.

CATEGORIES CORONARY: Stents: Drug-Eluting

TCT-100

Real-World Experience and Outcomes of Protected Versus Unprotected Left Main Percutaneous Coronary Intervention: Insights From the VA CART Program

Yasin Hussain,[1] Pedro Engel Gonzalez,[2] Rohan Khera,[3] Subhash Banerjee,[4] Annika Hebbe,[5] Mary Plomondon,[6] Stephen Waldo,[7] Steven Pfau,[8] Jeptha Curtis,[9] Samit Shah[10]
[1]Yale School of Medicine, New Haven, Connecticut, USA; [2]Henry Ford Hospital, Detroit, Michigan, USA; [3]Yale School of Medicine, New Haven, Connecticut, USA; [4]UT Southwestern and VA North Texas, Dallas, Texas, USA; [5]VA Eastern Colorado HealthCare, Aurora, Colorado, USA; [6]VA Eastern Colorado Healthcare, Aurora, Colorado, USA; [7]Veterans Administration/University of Colorado, Denver, Colorado, USA; [8]Yale University, New Haven, Connecticut, USA; [9]Yale University, New Haven, Connecticut, USA; [10]Yale New Haven Hospital, Fairfield, Connecticut, USA

BACKGROUND Outcomes of protected left main (PLM) and unprotected left main (ULM) percutaneous coronary intervention (PCI) are not well defined in contemporary U.S. practice. Previous studies of real-world data have shown worse in-hospital outcomes of ULM PCI compared with randomized trial data. We used a large national registry to characterize real-world practice and outcomes of left main PCI.

METHODS Data were collected from the Veteran Affairs (VA) Clinical Assessment Reporting and Tracking (CART) Program for patients undergoing left main PCI between 2009 and 2019. PLM PCI was defined by the presence of at least 1 functioning bypass graft, and ULM PCI was defined as patients with no bypass grafting. Temporal trends, patient and procedure characteristics, anatomic complexity, and clinical complexity were assessed. A 1-to-1 propensity-matched analysis was performed using common comorbidities and clinical variables. One-year outcome analyses were conducted for major adverse cardiovascular events (MACE), all-cause mortality, rehospitalization for myocardial infarction (MI) and revascularization.

RESULTS Of 4,351 patients undergoing left main PCI, 2,800 were PLM PCI and 1,551 were ULM PCI, of which 1,335 PLM and ULM PCI were included in the propensity matched cohort. Patients undergoing ULM PCI were older, more likely to present with acute coronary syndrome (ACS) and had a higher clinical complexity. In the propensity-matched cohort, there was no difference in age, rate of ACS presentation, burden of comorbidities, or left ventricular ejection fraction. There were no differences in in-hospital adverse events between the 2 groups. At 12 months, MACE occurred more frequently with ULM PCI compared with PLM PCI (25% [334] vs 20% [270]; $P = 0.004$), and all-cause mortality was also higher (18% [239] vs 14% [185]; $P = 0.005$). There was no difference in rehospitalization for MI, stroke, or revascularization at 12 months.

CONCLUSION In the VA Healthcare System, patients undergoing ULM PCI were older and more clinically complex than those undergoing PLM PCI. In the propensity-matched cohort, patients undergoing PLM PCI had better 12 outcomes than those undergoing ULM PCI, but there was a high rate of mortality and MACE at 1 year in both groups, despite a relatively low rate of MI or revascularization.

CATEGORIES CORONARY: Complex and Higher Risk Procedures for Indicated Patients (CHIP)

TCT-101

Long-Term Outcomes Following Percutaneous Coronary Intervention Versus Coronary Artery Bypass Grafting for Treating In-Stent Restenosis in Unprotected Left Main Coronary Artery: Multicenter LM-DRAGON Registry

Wojciech Wańha,[1] Jacek Bil,[2] Michalina Kołodziejczak,[3] Adam Kowalowka,[4] Damian Hudziak,[5] Radoslaw Gocol,[6] Mariusz Kowalewski,[7] Rafal Januszek,[8] Tomasz Figatowski,[9] Marek Milewski,[10] Brunon Tomasiewicz,[11] Piotr Kubler,[12] Piotr Desperak,[13] Łukasz Kuźma,[14] Krzysztof Milewski,[15] Bartlomiej Gora,[16] Andrzej Los,[17] Jan Kulczycki,[18] Adrian Wlodarczak,[18] Marek Grygier,[19] Maciej Lesiak,[20] Pawel Kleczynski,[21] Radoslaw Litwinowicz,[22] Andrea Borin,[23] Grzegorz Smolka,[1] Krzysztof Reczuch,[24] Marcin Gruchała,[9] Robert Gil,[25] Miłosz Jaguszewski,[9] Krzysztof Bartus,[26] Piotr Suwalski,[27] Slawomir Dobrzycki,[28] Dariusz Dudek,[29] Stanislaw Bartus,[29] Mariusz Gasior,[30] Jacek Legutko,[31] Andrzej Ochała,[10] Alexandra Lansky,[32] Marek Deja,[33] Elvin Kedhi,[34] Wojciech Wojakowski[10]