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BACKGROUND In the EXCEL trial, PCI with everolimus-eluting stents was non-inferior to CABG at 3 years for treatment of left main coronary artery disease (LMCAD) with low or intermediate SYNTAX scores. We sought to assess whether chronic obstructive pulmonary disease (COPD), an independent risk factor for worse outcomes after surgery, affected outcomes in EXCEL.

METHODS Pts with COPD were matched 1:5 to those without COPD using propensity scores. Outcomes at 30 days and 3 years in both groups were compared in pts randomized to PCI vs. CABG.

RESULTS 146/1905 randomized pts (8%) in EXCEL had COPD at baseline. Propensity score matching yielded 130 pts with and 650 pts without COPD. Pts with COPD had higher rates of death, MI and stent thrombosis or graft occlusion, but not bleeding or revascularization (Table). The presence vs absence of COPD did not significantly moderate the relative risk of the primary composite endpoint of death, MI, or stroke with PCI vs. CABG at 30 days (HR 0.41; 95% CI 0.13-1.29 vs. HR 0.39; 95% CI 0.18-0.86; Pinteraction=0.97) or at 3 years (HR 0.88; 95% CI 0.46-1.68 vs. HR 1.16; 95% CI 0.77-1.74; Pinteraction=0.46).

Clinical Outcomes in the Propensity Score Matched Cohorts		COPD (n=130)	No COPD (n=650)	P Value
30 Days	Death, myocardial infarction, or stroke	11.6% (15)	4.8% (31)	0.002
	All-cause death	3.1% (4)	0.9% (6)	0.04
	Myocardial infarction	10.9% (14)	3.1% (20)	<0.0001
	Stroke	0.8% (1)	1.2% (8)	0.67
	BARC bleeding, type 3-5	7.0% (9)	5.3% (34)	0.40
3 Years	Death, myocardial infarction, or stroke	30.2% (37)	15.1% (93)	<0.0001
	All-cause death	17.8% (21)	9.2% (55)	0.004
	Myocardial infarction	18.1% (22)	6.3% (39)	<0.0001
	Stroke	1.6% (2)	3.2% (19)	0.43
	Definite stent thrombosis or symptomatic graft occlusion	6.0% (7)	2.3% (14)	0.02
	Ischemia-driven revascularization	11.6% (13)	9.5% (57)	0.47

CONCLUSION COPD is an independent predictor of poor prognosis after LMCAD revascularization. In the EXCEL trial, early and late outcomes of PCI vs. CABG were consistent in pts with and without COPD.

CATEGORIES CORONARY: PCI Outcomes

TCT-181

Outcomes of Left Main PCI vs CABG According the Number of Diseased Coronary Arteries: The EXCEL trial

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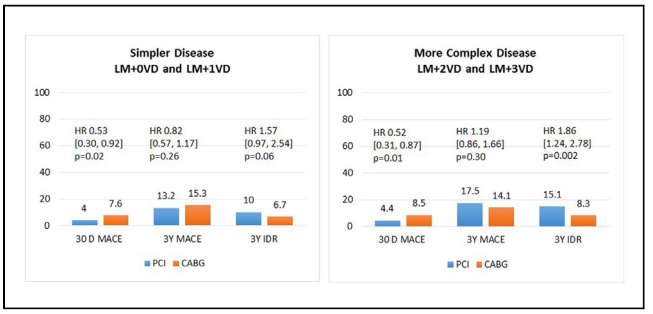
BACKGROUND In the large-scale international, multicenter, randomized EXCEL trial, PCI with everolimus-eluting stents (EES) was non-inferior to CABG for the treatment of pts with left main (LM) coronary artery disease and SYNTAX score ≤32. Given variability in SYNTAX score assessment, the non-LM number of diseased coronary arteries (NDV; 0, 1, 2, or 3) may be a simpler way to discriminate groups with different outcomes with PCI vs CABG.

METHODS The primary endpoint was 3-year (3Y) major adverse cardiac events (MACE), a composite of death, stroke, or MI. Major secondary endpoints included 30D MACE and 3Y ischemia-driven revascularization (IDR). A pre-specified analysis according to the angiographic core laboratory (ACL) NDV (SYNTAX criteria - lesions with ≥50% DS beyond the LM [ie, excluding the ostial LAD and ostial LCX]) was performed.

RESULTS 1905 LM pts were randomized to EES (n=948) or CABG (n=957); NDV was assessed by the ACL in 1852 pts; 329 (17.8%) had LM+0VD, 579 (31.3%) had LM+1VD, 608 (32.8%) had LM +2VD and 336 (18.1%) had LM+3VD, each group equally distributed between PCI and CABG. 3Y MACE rate for PCI vs. CABG were non-significantly different in each group with no interaction present (p=0.75). Results in simpler (LM+0/1VD) vs. more complex (LM+2/3VD) disease appear in the figure.



CONCLUSION Pts with LM+0/1VD may preferentially be treated by EES. More complex LM pts with 2/3 VD should undergo heart team evaluation to carefully consider the trade-offs of reduced early MACE with PCI compared to less late revascularization after CABG.

CATEGORIES CORONARY: PCI Outcomes

TCT-182

Outcomes Following Left Main PCI vs. CABG in Patients With Cerebrovascular Disease: Results From the EXCEL Trial

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BACKGROUND Patients with cerebrovascular disease (CEVD) requiring revascularization are often referred to PCI rather than CABG. There is a paucity of data regarding the impact of cerebrovascular disease in pts with left main coronary artery disease (LMCAD) following revascularization.

METHODS In the EXCEL trial, pts with LMCAD and low or intermediate SYNTAX scores were randomized to PCI with everolimus-eluting stents vs CABG. We assessed the effect of prior CEVD, defined as prior stroke, TIA, or carotid artery disease (stent, endarterectomy, or stenosis) on the primary composite endpoint of all-cause death, stroke, or MI at 3 years. Multivariable analysis was performed to determine whether prior CEVD was an independent predictor of adverse outcomes.

RESULTS Prior CEVD was present in 233/1898 pts (12.3%). These pts were older and had substantially more comorbidities, including more hypertension, diabetes, peripheral vascular ds., chronic kidney ds., and prior PCI, compared to those without prior CEVD. Pts with prior CEVD had higher 3-year rates of the primary endpoint (25.5% vs. 13.7%, adjusted HR 1.74, 95%CI 1.26-2.40, p=0.0007). The relative effects of PCI vs CABG were consistent in pts with vs without prior CEVD (Table).

3-year events	Prior CEVD			No prior CEVD			P-value for interaction
	PCI	CABG	HR (95% CI)	PCI	CABG	HR (95% CI)	
D, MI, stroke*	29.2%	21.9%	1.40 [0.82, 2.40]	13.6%	13.8%	0.93 [0.71, 1.21]	0.17
Death	16.8%	13.7%	1.08 [0.54, 2.19]	7.1%	4.9%	1.44 [0.95, 2.18]	—
MI	14.5%	7.8%	2.23 [0.95, 5.21]	7.2%	8.5%	0.79 [0.56, 1.12]	—
Stroke	7.9%	4.8%	1.68 [0.55, 5.13]	1.6%	2.7%	0.57 [0.28, 1.15]	—
D, MI, stroke, IDR	37.8%	25.8%	1.63 [1.00, 2.65]	21.2%	18.2%	1.12 [0.90, 1.40]	0.18
IDR	13.3%	6.9%	2.16 [0.87, 5.35]	12.6%	7.7%	1.67 [1.21, 2.31]	—
ST/GO	0.9%	4.5%	0.21 [0.02, 1.80]	0.6%	5.5%	0.11 [0.04, 0.28]	—

*Primary endpoint. D=death, MI=myocardial infarction; IDR=ischemia-driven revascularization; ST/GO=definite stent thrombosis or graft occlusion.

CONCLUSION Pts with LMCAD and prior cerebrovascular diseases have reduced event-free survival after revascularization compared to pts without cerebrovascular disease. Data from the EXCEL trial do not a priori support a preferential role of PCI over CABG in pts with cerebrovascular ds.

CATEGORIES CORONARY: PCI Outcomes

TCT-835

Comparison of Percutaneous Coronary Intervention and Coronary Artery Bypass Grafting for Unprotected Left Main Coronary Artery Disease in Patients with Diabetes: A Meta-Analysis

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BACKGROUND Improved Percutaneous Coronary Intervention (PCI) techniques for Unprotected Left Main (ULM) disease have led to comparable outcomes to Coronary Artery Bypass Grafting (CABG). Data pertaining specifically to the optimal revascularization strategy for ULM lesions in diabetics is scarce.

METHODS A comprehensive literature search to June 2017 identified 7 studies (1 Randomized, 6 Observational) with 4193 patients (PCI=2215, CABG=1978). We performed aggregate data meta-analyses of clinical outcomes (all-cause mortality, cardiac mortality, repeat revascularization and MACCE) comparing PCI and CABG in patients with diabetes and ULM disease. Odds Ratios (OR) and 95% confidence intervals (CI) were estimated using random-effects model.

RESULTS In our analysis, for a median follow-up of ≥36 months, the composite outcome of death, MI or stroke was lower in diabetic patients with ULM disease undergoing PCI compared to CABG (OR 0.75; 95% CI 0.59-0.96).There was no statistical difference in all-cause mortality (OR 0.86; 95% CI 0.64- 1.15). PCI had lower rates of stroke but higher rates of repeat revascularization and MACCE (OR 1.60; 95 % CI 1.34- 1.92) compared to CABG (Table 1. Outcomes of Percutaneous Coronary Intervention and Coronary Artery Bypass Grafting in Unprotected Left Main Disease in Diabetics).

Outcomes	Studies	Patients	Event Rate		OR (Random) 95% CI
			PCI	CABG	
Death	7	4193	256/2215 (11.6)	256/1978 (12.9)	0.86 [0.64, 1.15]
Stroke	4	1651	16/940 (1.7)	42/711 (5.9)	0.34 [0.16, 0.76]
Repeat Revascularization	7	4193	353/2215 (15.9)	106/1978 (5.4)	3.52 [2.34, 5.29]
Myocardial Infarction (MI)	4	1778	66/993 (6.7)	36/785 (4.6)	1.35 [0.53, 3.43]
Composite of Death, MI and Stroke	3	2415	137/1222 (11.2)	172/1193 (14.4)	0.75 [0.59, 0.96]
MACCE†	4	3186	481/1772 (27.1)	289/1464 (19.7)	1.60 [1.34, 1.92]

CONCLUSION In our analysis, for diabetic patients with ULM disease, PCI and CABG had equivalent mortality, with lower composite hard outcomes of Death, MI and Stroke, mostly driven by decreased stroke rates with PCI. This study is consistent with other similar studies showing the increased incidence of repeat revascularization with PCI compared to CABG, tilting MACCE in favor of CABG.

CATEGORIES CORONARY: PCI Outcomes

HIGH RISK PATIENTS AND TAVR - II

Abstract nos: 183 - 187

TCT-183

Clinical Outcomes and Prognosis Markers of Patients With Liver Disease Undergoing Transcatheter Aortic Valve Replacement: A Propensity Score-matched Analysis

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BACKGROUND Chronic liver disease is a known risk factor for perioperative morbidity and mortality in patients undergoing cardiac surgery. Very little data exist about such patients treated with transcatheter aortic valve replacement (TAVR). The objectives were to evaluate early and late clinical outcomes in a large cohort of patients with liver disease undergoing TAVR and to determine the predictive factors of mortality among patients with liver disease.

METHODS This multicenter study collected data from 114 patients with chronic liver disease who underwent TAVR in 12 institutions. Perioperative and long-term outcomes were compared to a cohort of 1118 patients without liver disease after a propensity score-matching analysis (114 matched pairs).

RESULTS Baseline differences were adjusted after the propensity score analysis. In hospital mortality and vascular and bleeding complications were similar between matched groups. Acute kidney injury