TCT@ACC-i2: Interventional Cardiology

PATIENT AND LESION-SPECIFIC CHARACTERISTICS PREDICT RISK OF MAJOR ADVERSE CARDIOVASCULAR EVENTS AMONG PATIENTS WITH PREVIOUS PERCUTANEOUS CORONARY INTERVENTION UNDERGOING NON-CARDIAC SURGERY

Poster Contributions
Poster Hall B1
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Background: Patients with prior percutaneous coronary intervention (PCI) who undergo non-cardiac surgery have an increased risk of postoperative major adverse cardiovascular events (MACE). Few studies have examined the association of PCI lesion characteristics with subsequent operative risk.

Methods: Patients who underwent PCI were identified using the VA CART program. Patients who then underwent non-cardiac surgery within two years after stent placement were linked to VA and non-VA surgical records using the VA and CMS administrative data. A multivariable logistic regression model was developed to identify predictors of MACE.

Results: Among 12,621 patients with a history of prior PCI who underwent subsequent non-cardiac surgery, 570 (4.5%) developed postoperative MACE. The median time from stent placement to surgery was 368 days. On univariate analysis, left main or LAD PCI, stent length >30 mm, and PCI to an ostial lesion were associated with MACE. Lesion characteristics of the PCI independently associated with postoperative MACE included PCI to a distal or ostial lesion, and lesion calcification (Table). Placement of a bare metal stent was also an independent predictor of overall MACE after noncardiac surgery (AOR 1.29, 95% CI 1.06-1.57).

Conclusion: While patient and operative characteristics are the strongest predictors of MACE after noncardiac surgery, lesion characteristics including lesion location and calcification are also significantly associated with postoperative MACE.

Table. Model of Major Adverse Cardiac Events (MACE) adjusted for covariates*

	OR	(95% CI)	p-value	χ^2-df	Rank
PCI Characteristics					
PCI Indication					
Non ACS	Ref.				
ACS without MI	1.59	(1.28-1.98)	<0.001	17.3	3
ACS with MI	2.29	(1.73-3.05)			
Stent Type			0.01		
Non BMS	Ref.			6.4	7
BMS	1.29	(1.06-1.57)			
Lesion Characteristics					
Distal Location	1.43	(1.11-1.83)	0.01	7.9	5
Ostial Lesion	1.52	(1.11-2.08)	0.01	6.7	6
Calcified Lesion	1.29	(1.03-1.61)	0.03	4.8	8
Patient Cardiac Risk					
Revised Cardiac Risk Index					
1	Ref.				
2	1.74	(1.37-2.20)	<0.001	30.5	2
≥3	2.68	(2.09-3.44)			
Subsequent Operation Characteristics					
Subsequent Operation Admission					
Outpatient	Ref.				
Elective Inpatient	2.23	(1.77-2.81)	<0.001	52.5	1
Non-Elective Inpatient	4.81	(3.55-6.53)			
Time to Surgery, days**			<0.001	15.5	4
At 7 Days vs. 1 Year	5.13	(3.49-7.56)			
At 30 Days vs. 1 Year	2.80	(2.08-3.76)			
At 3 Months vs. 1 Year	1.31	(0.95-1.81)			
At 6 Months vs. 1 Year	1.30	(0.91-1.85)			
Subsequent Operation Type					
Eye/ear	Ref.				
Digestive	1.95	(1.22-3.10)			
Genital/Urinary	1.73	(1.10-2.72)			
Integumentary	1.71	(1.09-2.68)			
Musculoskeletal	1.62	(1.02-2.57)	0.02	2.35	9
Nervous	1.86	(1.00-3.44)			
Other	1.78	(0.71-4.46)			
Respiratory	2.87	(1.74-4.73)			
Vascular	2.03	(1.30-3.16)			

* Adjusted for Fiscal Year of Stent Placement
** Time to Surgery from Cardiac Stent Placement was included as a spline-fit term. Estimates of the OR with a reference of 365 days are provided.