



Interventional Cardiology

DIFFERENCES AND LEVEL OF AGREEMENT IN SYNTAX SCORE ASSESSMENT BETWEEN SITE OPERATORS AND ANGIOGRAPHIC CORE LABORATORY READERS: INSIGHTS FROM THE EXCEL TRIAL

Poster Contributions
Poster Hall, Hall C
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Session Title: Complex Coronary Intervention: Left Main/Bifurcations and Multivessel Disease
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Authors: *Philippe Genereux, Patrick Serruys, A. Kappetein, Ad Van Boven, Mark Hickey, David Kandzari, Erick Schampaert, Ovidiu Dressler, Imre Ungi, Samer Mansour, Adrian Banning, David Taggart, Manel Sabate, Anthony Gershlick, Andrzej Bochenek, Jose Pomar, Piet Boonstra, Nicholas Lembo, John Puskas, W. Morris Brown, Roxana Mehran, Ori Ben-Yehuda, Charles Simonton, Joseph Sabik, Gregg Stone, Cardiovascular Research Foundation, New York, NY, USA*

Background: The SYNTAX trial demonstrated that the SYNTAX score (SS) as assessed by angiographic core laboratory (ACL) analysis is used to make revascularization decisions. Discrepancies in SS assessment between clinicians at the point of care and the ACL is poorly understood.

Methods: In the EXCEL trial, 1905 patients with left main CAD (LMCAD) and SS ≤32 based on site assessment were randomized to CABG (n=957) vs. PCI with Xience everolimus-eluting stents (n=948). The local Heart Team consisting of an interventional cardiologist and cardiac surgeon computed study eligibility SS. Qualifying baseline angiograms were also analyzed at an independent ACL. Difference and level of agreement between sites and ACL was determined (kappa statistic) for each SS component.

Results: The mean SS was higher by ACL read than by site assessment (mean 26.5 ± 9.3 vs. 20.6 ± 6.2, P<0.0001). Thus, 24.2% of patients randomized in EXCEL actually had a high SS (>32). Compared to the ACL, site investigators under-reported most SYNTAX score components (Table). The level of agreement between site and ACL was at best fair (kappa statistic ≤0.40) for the SYNTAX score in general and its components, except for the identification of dominance, ostial location, and CTO lesions, for which it was at least moderate (Table).

Conclusions: Clinicians substantially under-estimate the SS, which may impact revascularization decisions. Simplification or automation of SYNTAX scoring is needed to ensure appropriate patient risk stratification.

Level of Agreement Between Site and Angiographic Core Laboratory Assessment of the SYNTAX Score and its Components

	Angiographic Core Laboratory	Sites	p-value	Kappa (95% CI)
SYNTAX score (per tertile)	26.5 ± 9.3	20.6 ± 6.2	<0.0001	0.22 (0.19, 0.25)
SYNTAX score components				
Number of lesions	3.0 [2.0, 4.0]	2.0 [1.0, 3.0]	<0.0001	0.23 (0.20, 0.25)
Dominance (right)	95.3%	89.7%	<0.0001	0.54 (0.47, 0.61)
Total occlusion	11.9%	9.5%	<0.0001	0.66 (0.60, 0.72)
Trifurcation	36.6%	12.6%	<0.0001	0.32 (0.28, 0.36)
Bifurcation	75.7%	64.8%	<0.0001	0.27 (0.22, 0.31)
Aorto-ostial lesion	30.3%	34.2%	<0.0001	0.62 (0.58, 0.66)
Severe tortuosity	9.5%	4.9%	<0.0001	0.15 (0.09, 0.22)
Length >20 mm	27.3%	29.8%	0.05	0.29 (0.24, 0.34)
Calcification	35.2%	23.1%	<0.0001	0.33 (0.29, 0.38)
Thrombus	6.5%	2.9%	<0.0001	0.13 (0.05, 0.21)
Small and diffuse disease	3.8%	5.8%	0.003	0.09 (0.02, 0.16)