

Long-term outcomes of patients with complex coronary artery disease and high SYNTAX score in contemporary practice

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**Background:** According to the contemporary revascularization guidelines, coronary artery bypass surgery (CABG) should be selected for most patients with 3-vessel disease and left main artery (3VD/LM) involvement, low surgical risk, and SYNTAX score > 32. Percutaneous coronary intervention (PCI) should be preferred in patients with proximal involvement and high surgical risk. We sought to assess the adequacy of referral to PCI/CABG of patients with LM/3VCAD and high SYNTAX score at our institution and the clinical outcomes of those patients.

**Methods:** We retrospectively reviewed all patients with LM/3VCAD referred to CABG (n = 106), PCI (n=218), and medical therapy (n=61) in our institution from 2011 to 2013. We calculated the SYNTAX score and EuroScore, and compared the agreement rates between the treatment modality and as well as clinical outcomes.

**Results:** The overall agreement rates between the revascularization procedure and the SYNTAX score was 36%. The rate was higher in patients with high EuroScore (89%) but lower in patients with low EuroScore (28%). Patients without agreement between the treatment modality and the SYNTAX score had higher rates of combined adverse cardiac events (55% vs. 25% P < 0.001), irrespective in patients with/without diabetes and with/without LM involvement.

**Conclusion:** At our institution, there was considerable disagreement between a clinical judgment-based coronary revascularization and the guideline-based allocation process as to the preferred treatment modality for patients with complex CAD. Our results suggest that integrating the concept of heart team approach into the decision-making process for assigning patients to revascularization would yield better clinical outcomes.