Percutaneous coronary intervention to treat unprotected left main: Unmet needs

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We read with much interest the article by Kovacevic et al. [1] about modern dilemmas in interventional treatment of the left main (LM) disease. The authors described clearly and provided solutions for imaging and functional assessment modalities, procedural issues, and options for overcoming hemodynamic instabilities during the procedure. However, some aspects of LM percutaneous coronary interventions (PCI) were left understated.

As reported by the authors, intravascular ultrasound (IVUS), in addition to the assessment of the intermediate stenosis significance, provides a morphological plaque evaluation. However, IVUS is poorly utilized (16.7% in our last cohort [2]), especially in predominantly acute PCI centers with a high percentage of *ad hoc* interventions (63.7% of the patients presented with acute coronary syndrome; 70.0% of the interventions were *ad hoc* in the same cohort). Yet, the data obtained by IVUS are crucial in foreseeing difficult procedures leading to suboptimal outcomes. Avoiding routine pre-interventional IVUS could elicit worse outcomes. Insight into calcium burden, eccentricity, and particularly nodularity often leads to a change in revascularization strategy. Interventional society is very much aware of the results of the two major LM studies [3, 4] with suboptimal results in PCI arms. The usage of IVUS in these studies was 77% and 72%. In the Nordic-Baltic-British Left Main Revascularization (NOBLE) trial substudy analysis, the usage of IVUS was associated with lower LM target lesion revascularization, although the differences in hard outcomes remained non-significant (5.1% vs. 11.6%; *P* = 0.01 [5]; in both studies IVUS was not used for determining the eligibility for PCI strategy, but for post-stenting optimization purposes). Thus, maximizing imaging usage in, preferably, all LM patients with chronic coronary syndrome, and in the majority of acute coronary syndrome patients, or at least in those without acute thrombotic lesions, should be our first goal. I would like the authors to share with readers their current practice and reflections on whether IVUS should be used in all LM PCI procedures.

Recent advances in the PCI strategy (wrist access, potent antiplatelet therapy, debulking devices, latest stent generations, insights into optimal bifurcation technics, options for hemodynamic support) vastly outnumber the advances in surgical strategy. Yet, the PCI strategy is still considered only in the case of patients with a low Synergy Between PCI With Taxus and Cardiac Surgery (SYNTAX) score or those refusing surgery. This "low SYNTAX" score often translates to "low-risk" patients, commonly signifying normal systolic function and an absence of significant comorbidity. Yet those at "high risk" or frail and elderly patients, as Kovacevic et al. [1] stated, could benefit from PCI supported by decongestive strategies such as Impella (Abiomed, Danvers, MA, USA) or iVAC 2L (PulseCath, Amsterdam, The Netherlands), by simply avoiding surgery. How many patients with successful surgery and unfavorable postoperative course have we seen? Should we look up to our older patients with severe aortic stenosis that we now regularly treat percutaneously? Is it fair time for new *noble* studies in *excel*ling field of interventional LM revascularisation? I wonder about the opinion and current practice of the authors in the field of LM PCI for high-risk patients with intermediate and high SYNTAX scores; how do the authors translate current recommendations into everyday workflow?

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