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Comment on: Robotic-Assisted Coronary Artery Bypass Grafting vs. Percutaneous Coronary Intervention Strategies for Ostial Left Anterior Descending Lesions

LETTER TO THE EDITOR

To the Editor,

I read with great interest the article by Köseoğlu et al[1] titled "Robotic-Assisted Coronary Artery Bypass Grafting vs. Percutaneous Coronary Intervention Strategies for Ostial Left Anterior Descending Lesions." The authors should be congratulated for conducting this important study addressing the mid-term outcomes of robotic-assisted coronary artery bypass grafting (RA-CABG), crossover stenting (CS), and ostial stent implantation (OSI) in patients with ostial left anterior descending (LAD) artery lesions. However, I would like to raise several points that may contribute to the interpretation of their findings.

First, although the authors employed inverse probability weighting to reduce treatment-selection bias, the non-randomized, retrospective design and operator-dependent procedural choices inherently limit the internal validity of the comparisons made. It remains unclear what specific clinical or anatomical criteria guided the assignment of patients to RA-CABG or PCI subgroups.

Second, the significantly lower utilization of intravascular imaging techniques—particularly IVUS—in both PCI groups may have influenced the suboptimal stent deployment, especially in OSI patients, who showed higher major adverse cardiac and cerebral events (MACCE) and target vessel revascularization (TVR) rates. Considering that accurate stent positioning in ostial LAD lesions is technically demanding and associated with a high risk of longitudinal geographic miss, the omission of IVUS in nearly three-fourths of cases is a notable limitation.[2,3]

Third, although the authors recommend CS as a viable alternative in patients with SYNTAX scores <33, this statement, in our opinion, lacks strong evidential support given the observational nature of the data. Moreover, current The European Society of Cardiology (ESC) guidelines already suggest CS over OSI in most bifurcation settings, including Medina (0.1.0) anatomy, when feasible.[4]

Interestingly, a recent study by Soylu et al[5] demonstrated favorable long-term outcomes with OSI compared to CS in patients with ostial LAD stenosis, which contrasts with the findings reported by Köseoğlu et al.[1] This discrepancy may reflect differences in imaging guidance, lesion selection, or procedural expertise, highlighting the need for standardized prospective studies.

Finally, the external validity of this study is also constrained by the surgical group (RA-CABG), which, while promising in selected patients, is not widely available, operator dependent, and often contraindicated in complex or elderly patients with comorbidities. Therefore, the findings should be interpreted cautiously before generalizing to daily practice.

In conclusion, this study provides valuable insights into the treatment of ostial LAD lesions. However, further large-scale, prospective randomized trials with routine use of intravascular imaging are essential to define the optimal revascularization strategy in this challenging anatomical subset.

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