Management of side branch stenosis with pre-dilatation in coronary bifurcation disease

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To the Editor,
We have recently read with great interest the article by Vassilev et al. entitled “Side branch pre-dilatation during coronary bifurcation percutaneous intervention: Long-term mortality analysis” [1]. We thank the authors for their comprehensive and elucidated original investigation involving 813 patients investigating the impact of side branch pre-dilatation (SBPD) during provisional stenting on long-term mortality in patients with bifurcation lesions. On the other hand, we believe several points need to be addressed. We would like to discuss some points on the subject for clarification.

First of all, SBPD is still a debatable issue. Although routine pre-dilatation is not recommended, it can be performed in cases of severe calcification, difficult access, critical stenosis of the side branch (SB), and tortuous anatomies [2]. The main disadvantage of SBPD is the risk of dissection and the necessity of SB stent implantation and increased risk of SB restenosis. However, Vassilev et al. [1] did not provide meticulous data regarding anatomic characteristics of bifurcation disease including calcification, plaque burden, tortuosity, bifurcation angle, and preprocedural predictive factors for SB occlusion using the V-RESOLVE (An angiographic tool based on Visual estimation for Risk prEdiction of Side branch OccLusion
in coronary bifurcation interVEntion) score system [3]. These parameters may be valuable data for the study outcomes and have the potential to influence long-term mortality.

Second, the stepwise provisional stenting has become the default strategy for most bifurcation diseases. However, rarely with this approach, SB occlusion occurs in 6%–18% of cases and is associated with periprocedural myocardial infarction (PPMI) and major cardiovascular events [4]. Additionally, if the SB reference diameter is >2 mm and represents a significant region of the myocardium (>10%), and the SB length is ≥73 mm, the SB has prognostic significance. Hence, the readers may wonder if the side branch was not evaluated quantitatively and qualitatively.

Third, several SB protection techniques in provisional stenting have been described in the literature [4]. In general, SB protection techniques are divided into active and conventional. Previously, Dou et al reported that an active SB-protection strategy (jailed balloon) is superior to a conventional strategy (jailed wire) in reducing SB occlusion when treating high-risk bifurcation lesions [5]. This was not only SB occlusion and TIMI flow grade decrease but also increased rate of PPMI [5]. It may be helpful to the readers, especially interventional cardiologists, to learn more about which SB protection strategies the authors adopted in their study.

Fourth, another aspect that needs clarification is the presence of data related to PPMI. Given the significance of PPMI as a procedural complication and its association with increased risk of morbidity and mortality [2–4], it would be valuable to provide whether the study collected and analyzed data on the occurrence of and its related to SBPD.

In summary, we believe that addressing these points would enhance the comprehensiveness of the study findings and help further advance our knowledge in the field of coronary bifurcation interventions.

**Article information**

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