Management of left ventricular outflow tract obstruction in transcatheter mitral valve replacement

To the Editor,

Congratulations to Kılıç et al. (1) on this very well managed and successfully treated case. Transcatheter mitral valve replacement (TMVR) is an emerging choice for severe mitral annular calcification, degenerated mitral bioprosthesis, or previously failed ring repairs at high/prohibitive operative risk for surgery (2). One of the several main points to be considered in TMVR is left ventricular outflow tract obstruction (LVOTO), which can lead to fatal complications. The intentional percutaneous laceration of the anterior mitral leaflet to prevent outflow obstruction (LAMPOON) method was improved to alleviate the risk of LVOTO in TMVR. It is not only the LAMPOON procedure that can be done to prevent LVOTO, but there are other methods such as preemptive alcohol septal ablation (ASA) (3). Other less common methods for prevention of LVOTO are radiofrequency ablation of the interventricular septum, mechanical splitting of the anterior leaflet, preparation of a U-stitch to correct lateral deflection for endovascular mitral replacement in the short landing zone (POULEZ) technique, and kissing-balloon technique (3). The LAMPOON procedure, which can be performed by a heart team, with a high degree of interventional cardiology experience and cardiac imaging specialist to provide support with multimodality before and during the procedure, is life-saving in patients undergoing TMVR. Although the LAMPOON method is now clearly defined, the issue of which patients would benefit from it is controversial, and the patients should be selected carefully because of the complexity of TMVR. An algorithmic selection criteria strategy designed by Tiwana et al. (2) for prevention LVOTO in TMVR is important evidence as described in Figure 1. According to this algorithm, in this case (estimated neo-LVOT area was found to be 169 mm^2), the patient could be given preemptive ASA firstly, and the decision could be made to perform TMVR or LAMPOON+TMVR according to the evaluation after 4–6 weeks. The procedure can be less complex in already high-risk patients with this alternative. Another point is that the post-TMVR neo-LVOT area can be accurately measured, for which a standardized method has not yet been established (4). As the skirt part of the valve that passes to the ventricular side (Sapien or Myval) will cause the actual LVOTO in the neo-LVOT measurement, the non-skirted cells should not be considered because they are large and will not interfere with blood flow. Finally, the contribution we can offer about this case will be the use of smaller (10–12 mm) balloons to dilate the interatrial septum according to both the literature and our experience. We wanted to congratulate our friends on this wonderfully managed case and draw attention to and discuss a few pertinent points regarding this.

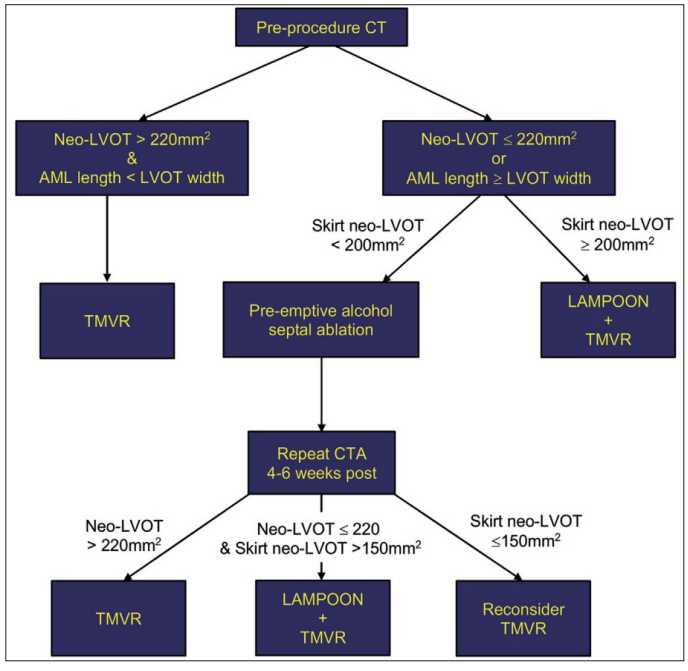

Figure 1. An algorithmic selection criteria strategy for prevention of LVOTO using CT

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