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WHAT DO WE KNOW ABOUT THE INDICATIONS FOR A

TRANSCAROTID APPROACH?

To the Editor:

I read with great interest a recent article in which the authors compared the 30-day outcomes between patients who underwent transcatheter aortic valve replacement (TAVR) with those who underwent transthoracic TAVR using the Sapien 3 valve (S3) (Edwards Lifesciences, Irvine, Calif).¹

Studies of various nontransfemoral approaches (eg, TC, transsubclavian, and transaxillar) are ongoing. Some of these approaches are extremely popular and indeed are among the most frequently used TAVR access routes. Globally, the transthoracic approach to TAVR is still among the procedures most supported by experience. Nontransfemoral approaches should be prioritized to increase the feasibility of transcatheter use while reducing the interventional risk in patients with peripheral artery disease or other conditions that reduce the suitability of femoral access.

However, Allen and colleagues¹ did not mention the indications or contraindications for the TC approach and therefore failed to answer the following questions: How much interventional risk underlies this approach? and, Is the TC approach indicated in these patients?

Given the high rate of carotid stenosis (48.5%), I do not believe that this patient selection for the TC approach is appropriate. Furthermore, the authors reported a stroke

rate of 4.3% in the TC group, slightly higher than that in the transthoracic group.¹ In the Sapien Aortic Bioprosthesis European Outcome Registry,² where 93% of nontransfemoral approaches were transthoracic using the S3, the stroke rate was 2.8% and the 30-day mortality was 4%. Furthermore, when an aortic no-touch technique is necessary, transthoracic-TAVR was shown to yield even better outcomes than transfemoral-TAVR.³

Although Allen and colleagues¹ reported a low vascular injury rate, the risk remains high, and patients with carotid stenosis are unsuitable for TC-TAVR, independent of whether or not it is carried out via a percutaneous or cut-down procedure. Furthermore, a minimum carotid vessel diameter is required for the TC approach, and stenosis-free vessels are of paramount importance.⁴ Further, vascular complications affecting the carotid arteries would have more significant negative effects than similar injuries affecting femoral or subclavian arteries. This would become almost unacceptable in younger and lower risk patients.

Remarkably, paravalvular leakage (PVL) outcomes were not reported by the authors.¹ The topic of mild PVL is the most prevalent issue affecting the use of the S3. In contrast, Folliguet and colleagues⁴ reported moderate to severe PVL in 18.6% of patients after TC-TAVR with self-expandable and balloon-expandable valves. Because Allen and colleagues¹ reported only 30-day outcomes, the presence and severity of PVL would represent not only a surrogate 30-day marker but also a window to the eventual prediction of long-term outcomes.

Finally, similar to the transfemoral TAVR, not every patient might be suitable for only 1 nontransfemoral approach. The availability of various TAVR approaches provides surgeons with a rich opportunity to select the best option for the given scenario. I therefore believe that the differentiation of the various clinical indications for the appropriate TAVR approach is necessary.

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