

Editorial: We need more national data on transcatheter aortic valve implantation

In this issue of the *Anatolian Journal of Cardiology*, Duran Karaduman et al. (1) reported their single-center experience on the procedural and clinical outcomes in patients who underwent transcatheter aortic valve implantation (TAVI). Transcatheter aortic valve implantation is a very good example of how a dream came true thanks to the dedication and incredible partnership between the clinicians and engineers (2). After a long way passed in the preclinical stages, clinical trials depicted one of the biggest steps in interventional cardiology. TAVI proved itself as one of the rare modalities in interventional cardiology with mortality benefit compared to surgery and took its place as a standard method in patients with severe aortic stenosis and high to intermediate surgical risk (3-5). In addition, its non-inferiority to surgery in low-risk patients reveals that it may become a standard approach in most of the population with severe aortic stenosis (6).

Globally, we are passing through "difficult days" because of the Covid-19 pandemic. Health care systems' priority has changed dramatically and seems to remain so for an unpredictable time. We currently postpone almost all elective cases as a general policy of the Ministry of Health. Thus, the number of interventions for most of the structural heart disease, including TAVI, is sharply declined. Given the nature of this new, unexpected period, we need to underpin some points regarding TAVI.

First, severe aortic stenosis with NYHA class III/IV or with hemodynamic compromise should be taken as an urgent procedure and not be delayed because of its very high mortality rates. Thus, despite the reluctance for structural heart disease interventions, this group is very suitable for TAVI, even in today's complex dynamics. In addition, the threshold of surgical risk scores may be lower for TAVI in this Covid-19 pandemic considering the shorter hospitalization, as well as intensive care periods and obviously less need for general anesthesia. Second, although the use of TAVI is widening to younger patients with lower surgical risk, durability, stroke and higher pacemaker rates are important caveats in these patients. Third, the cost of TAVI is of major concern and will be so more and more under pressure to decrease health expenditures. This is true, especially for developing countries because of the

limited health budget. Thus, to determine a policy for the management of patients with severe aortic stenosis, we need short and long term outcome data. Turkey is one of the most populous countries in Europa, and the population is getting older. The annual number of TAVI procedures in Turkey is approaching 1200, which is less than what is expected, but this number is growing. Only the procedures in high-risk patients in addition to intermediate-risk patients who are above 75-year-old are being reimbursed by the Social Security System upon the decision of Institutional Heart Team(s). Currently, there are 56 TAVI centers in Turkey and dominantly three different transcatheter heart valves (THV) are being used. Despite this considerable amount of procedures, no large-scale follow-up data were published so far.

Duran Karaduman et al.'s (1) paper reflects their single-center experience of 556 consecutive patients who underwent TAVI between 2011 and 2019. This study is valuable, but some points should be noted. The time between the initiation and the end of the study is long. No doubt that local and global experience with TAVI was so limited at the beginning of 2010s compared to the end of this time frame. Another point is almost 95% of the implanted valves were balloon-expandable, which makes it impossible to generalize the results to self-expandable valves especially concerning permanent pacemaker (PPM) and paravalvular leak rates. Concordantly, the PPM rate was 7.2%, which was obviously lower compared to that of early generation self-expandable valves. When we take learning curve into account, in-hospital, 30-day and 1-year mortality rates (3.9%, 2.2%, 12.3%, respectively) were fairly good, with also very low rates of other non-fatal complications. Of note, the STS score was 6.0 ± 3.5 , indicating that the calculated surgical risk score on average was lower than expected.

In conclusion, the paucity of data on TAVI in the Turkish population makes Duran Karaduman et al.'s (1) paper valuable. However, a prospective, well designed, nationwide registry, including cost analysis, is urgently needed to implement a national TAVI policy in Turkey.

© Cem Barçın

Department of Cardiology, Health Sciences University, Gülhane Faculty of Medicine; Ankara-Turkey

Address for correspondence: Dr. Cem Barçın, Sağlık Bilimleri Üniversitesi, Gülhane Tıp Fakültesi, Kardiyoloji Anabilim Dalı, Ankara-Türkiye

Phone: +90 312 304 42 66 E-mail: cembarcin@yahoo.com

Accepted Date: 24.04.2020 **Available Online Date:** 29.04.2020

©Copyright 2019 by Turkish Society of Cardiology - Available online at www.anatoljcardiol.com
DOI:10.14744/AnatolJCardiol.2020.82289



References

1. Duran Karaduman B, Ayhan H, Keleş T, Bozkurt E. Evaluation of procedural and clinical outcomes of transcatheter aortic valve implantation: A single-center experience. *Anatol J Cardiol* 2020; 23: 288-96.
2. Cribier A. The development of transcatheter aortic valve replacement (TAVR). *Glob Cardiol Sci Pract* 2016; 2016: e201632.
3. Mack MJ, Leon MB, Smith CR, Miller DC, Moses JW, Tuzcu EM, et al. 5-year outcomes of transcatheter aortic valve replacement or surgical aortic valve replacement for high surgical risk patients with aortic stenosis (PARTNER 1): a randomised controlled trial. *Lancet* 2015; 385: 2477-84.
4. Leon MB, Smith CR, Mack MJ, Makkar RR, Svensson LG, Kodali SK, et al.; PARTNER 2 Investigators. Transcatheter or Surgical Aortic-Valve Replacement in Intermediate-Risk Patients. *N Engl J Med* 2016; 374: 1609-20.
5. Reardon MJ, Van Mieghem NM, Popma JJ, Kleiman NS, Søndergaard L, Mumtaz M, et al.; SURTAVI Investigators. Surgical or Transcatheter Aortic-Valve Replacement in Intermediate-Risk Patients. *N Engl J Med* 2017; 376: 1321-31.
6. Popma JJ, Deeb GM, Yakubov SJ, Mumtaz M, Gada H, O'Hair D, et al.; Evolut Low Risk Trial Investigators. Transcatheter Aortic-Valve Replacement with a Self-Expanding Valve in Low-Risk Patients. *N Engl J Med* 2019; 380: 1706-15.