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Editorial

Editorial: Transcatheter aortic valve implantation as a daily clinical practice in Japan

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Transcatheter aortic valve implantation (TAVI) is evolving rapidly with an exponential growth in the number of procedures in European countries [1,2], and is now reaching relative maturity. As worldwide experience with this modality increases, more and more patients are being offered this alternative to open surgery for the treatment of severe, symptomatic aortic stenosis (AS). In Japan, TAVI started to be used from 2013 after a clinical trial which had been successfully finished [3,4]. It has been estimated that 1400 procedures were performed in 2014, a number that will assuredly increase.

A successful TAVI procedure needs a merging of different skills including catheter-based guide-wire skills and fluoroscopic imaging, as well as a vast knowledge of open vascular approaches, cardiac structures, and aortic root anatomy. Therefore, interventional cardiologists and cardiovascular surgeons have been confronted with the need to gain experience in these novel approaches to aortic valve disease while maintaining high-quality results. Although TAVI is currently becoming a standard procedure worldwide, starting a TAVI program in a new center requires a learning curve [5,6]. In an effort to reduce the impact of this learning process, numerous educational methods focused on TAVI skills and procedures are offered by industry to medical centers desiring a TAVI program. In Japan, a good proctoring system has been developed, the on-site proctorship and the screening proctorship. The on-site proctor scrubs with the beginning operator for the procedure with the aim of guiding and assisting the trainee. At the same time, the proctor actively transfers skills to the trainee by providing real-time feedback of trainee performance. The screening proctors have a responsibility for the indication of the individual case. The screening proctors consist of interventional cardiologists, cardiac surgeons, and general cardiologists. Their decisions keep a quality of indication which leads to safe TAVI.

There are several points that concern us for which TAVI will be accepted as a viable therapy for severe AS in Japan. Japanese patients have a smaller body size and, consequently, a smaller aortic annulus size and vascular access than their European counterparts. A previous report showed that patients with small body size had smaller annulus and valve size [7]. A comparison of clinical outcomes between European and Japanese cohorts undergoing TAVI demonstrated that Japanese patients had a smaller aortic annulus as shown on echocardiography and the most commonly used implant was the Edwards 23-mm valve in the Japanese group and the Edwards 26-mm valve in the European group, suggesting that smaller valves are needed for Japanese patients [8]. The risks related to these anatomic differences have raised concerns about the safety of TAVI in Japanese patients.

Although the anatomical difficulty of Japanese patients undergoing TAVI exists, the preliminary data show the 30-day mortality of TAVI in Japan is under 2% since 2013, achieving noninferiority with experienced European registries and even with the results of surgical aortic valve replacement [9]. The good proctoring system in Japan surely contributed to the initial TAVI results. The effort of keeping this level is strongly needed even after finishing of proctorship. It leads to the next stage in the near future, arrival of new valves and expansion of the indication.

Conflicts of interest

None.

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