The first experiences with the lotus valve system in Turkey as an alternative valve system in TAVI

To the Editor,

Transcatheter aortic valve implantation (TAVI) is an alternative therapy to surgical aortic valve replacement (AVR) in inoperable patients with severe aortic stenosis (AS). Currently, new valve systems are being developed, and we experienced TAVI with the Boston Scientific Lotus Valve System (Marlborough, Massachusetts, USA) with two patients for the first cases in Asia-Pacific countries and Turkey. The first patient was a 77-year-old woman with severe AS with an echocardiographic aortic valve area of 0.8 cm^2 and a mean aortic pressure gradient of 52 mm Hg, and her left ventricular function (LVEF) was 35%. Her logistic EuroSCORE was 38%, and she had New York Heart Association (NYHA) functional class III dyspnea. The other patient was a 82-year-old woman with severe AS; in her echocardiographic examination, the aortic valve area was 0.6 cm^2, and the mean aortic pressure gradient was 62 mm Hg, with an LVEF of 52%. Her logistic EuroSCORE was 29%, and she had NYHA class III dyspnea. The Lotus valve system has some advantages, such as it does not require rapid pacing during valve system implantation and balloon pre-dilatation, and it has a specific pre-shaped guidewire that has two types varying the length and curve, designed according to the size of the left ventricular cavity diameter. This valve system supports an ability to change positions while opening the valve system at the aortic valve level. Likely, if the chosen aortic valve size and aortic roof size do not match, the valve system could be taken back through the sheath. The other important feature of the Lotus valve is success in the prevention of paravalvular leak (PVL), which is related with increased mortality rate (1). In the REPRİSE I trial, in which the safety and efficacy of the Lotus valve were studied, one patient had stroke, PVL was seen in 3 of 11 patients, and permanent pacemaker implantation was required due to complete heart block, left bundle branch block, or atrial fibrillation with slow ventricular rate in 4 of 11 patients, while the requirement of permanent pacemaker implantation varies between 3% and 40% with other valve systems (1, 2).

In our patients, the follow-up echocardiography showed a well-functioning prosthesis, with a mean gradient of 7 mm Hg and 9 mm Hg, respectively. There was no paravalvular leak or pacemaker implantation required in either patient. The patients were clinically stable at 30 days of follow-up after the procedure. In summary, the ability to change valve position to obtain optimal implantation placement and the decrease in PVL rate are the most important reasons for using the Lotus valve system.

Serkan Aslan, Derya Öztürk, Mehmet Gül, Aydın Yıldırım, Nevzat Uslu
Department of Cardiology, İstanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital; İstanbul-*Turkey*

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Address for Correspondence: Dr. Derya Öztürk,
Mehmet Akif Ersoy Eğitim ve Araştırma Hastanesi,
Göğüs Kalp ve Damar Cerrahisi Kardiyoloji Kliniği,
İstasyon Mah. Turgut Özal Bulvarı
No:11 Küçükçekmece, 34303, İstanbul-*Türkiye*
Phone: +90 212 692 20 00
Fax: +90 212 471 94 94
E-mail: dr.deryaerbas@hotmail.com
Available Online Date: 25.12.2014

DOI:10.5152/akd.2014.5784