


CARDIOVASCULAR FLASHLIGHT

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Transcatheter implantation of an aortic valve prosthesis in a female patient with severe bicuspid aortic stenosis

Janusz Kochman, Zenon Huczek, Łukasz Koltowski*, and Marcin Michalak

1st Department of Cardiology, Medical University of Warsaw, Warsaw, Poland

*Corresponding author. lukasz@koltowski.com

A successful implantation of transcatheter aortic valve was performed in a high risk 85-year-old female with severe symptomatic stenosis of a bicuspid aortic valve (BAV) [Panel A] and tight lesions in left anterior descending (LAD) and circumflex artery (LCx). Until recently, BAV remained a contraindication to transcatheter aortic valve replacement (TAVR). Due to EuroSCORE of 43.6%, the Heart Team excluded the patient from surgical aortic valve repair. Four weeks after successful LAD and LCx stent angioplasty, a CoreValve™ 29 mm (Medtronic) was implanted through the right femoral artery. Follow-up echocardiography showed significant improvements in peak gradient from 81 mm Hg to 34 mm Hg, mean gradient from 44 mm Hg to 16 mm Hg, valve area from 0.5 cm² to 1.3 cm², left ventricle ejection fraction from 29% to 50% and systolic pulmonary artery pressure from 65 mm Hg to 39 mm Hg. In spite of these, the CT angiography (Panel B) and the angiographic image (Panel C, D) showed uneven expansion of the valve. Controversy remains, whether post-dilatation would help to achieve a more ‘friendly’ image and, most importantly, larger valve area. Equally, application of high pressure potentially could constitute a threat of aortic annular disruption, especially in loci with massive calcifications.

This case exemplifies how crucial it is to establish guidelines for TVAR technique in patients with BAS. Reports similar to the above contribute to discussion on the use of appropriate approach for safe and efficient TVAR in BAS as well as in other new potential indications.

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