

## Very long-term durability of Hancock II porcine bioprosthesis on mitral position evaluation with real-time three-dimensional transesophageal echocardiography

*Çok uzun dönem dayanıklılık gösteren Hancock II porsin biyoprotez kapağın gerçek zamanlı üç boyutlu transözofajiyal ekokardiyografi ile değerlendirilmesi*

Cüneyt Toprak  
Mehmet Özkan#  
Macit Kalçık  
Sinan Cerşit  
Mehmet Altuğ Tuncer\*

Department of Cardiology,  
Koşuyolu Kartal Heart Training and  
Research Hospital, Istanbul;

#Department of Cardiology, Kafkas  
University Faculty of Medicine, Kars;

\*Department of Cardiovascular  
Surgery, Koşuyolu Kartal Heart  
Training and Research Hospital,  
Istanbul

A 57-year-old male, who had undergone mitral valve replacement with a 29-mm Hancock II bioprosthesis for mitral stenosis in 1987, was admitted to the outpatient clinic with exertional dyspnea. Transthoracic echocardiography revealed moderate mitral stenosis and regurgitation (Fig. A, B). Transesophageal echocardiography showed moderate calcification on the leaflets and two regurgitation jets (Fig. C). Real-time three-dimensional transesophageal echocardiography showed a perforation with additional paravalvular defect (Fig. D), and color image illustrated three mitral regurgitation jets (Fig. E). He was referred for valve surgery, the mitral bioprosthesis was removed, a no. 27 ATS mechanical prosthesis was replaced, and a no. 32 Contour 3D® annuloplasty ring was implanted to the tricuspid valve. Macroscopic examination revealed a perforation on the one of the leaflets (Fig. F). The case presented here is an extremely rare example of the long-term durability, over 26 years, of a Hancock II bioprosthesis in the mitral position. When a literature search was conducted, this case was found to represent the longest durability interval reported from the implantation of a bioprosthesis valve in the mitral position.



**Figures**– Transthoracic echocardiography showing moderate mitral stenosis (mitral valve area = 1.48 cm<sup>2</sup>, mean gradient = 9 mmHg) (A) and moderate mitral regurgitation jet (arrow) (B). (C) Two-dimensional transesophageal echocardiography and color image at 0° illustrating calcification of the leaflets and two mitral regurgitation jets (arrow). Three-dimensional transesophageal echocardiography showing mitral bioprosthesis from the left atrial aspect: a perforation is identified on the lateral side (black arrow), with additional paravalvular defect (red arrow) (D) Color image illustrating three severe mitral regurgitation jets; the first jet is from the paravalvular defect (red arrow), and the other jets are transvalvular (E). (F) Macroscopic examination of the bioprosthesis showing a perforation (Ao: Aorta; LAA: Left atrial appendage; LA: Left atrium; LV: Left ventricle).

