

# Left Ventricular Outflow Obstruction by the Strut of the Mitral Prosthesis: Original Image

## Mitral Protez Kapak Halkası İlişkili Sol Ventrikül Çıkım Yolu Darlığı

Özcan ÖZEKE,<sup>a</sup>  
Ahmet Duran DEMİR<sup>a</sup>

<sup>a</sup>Clinic of Cardiology,  
Eskişehir Acıbadem Hospital, Eskişehir

Geliş Tarihi/Received: 20.12.2010  
Kabul Tarihi/Accepted: 20.01.2011

Yazışma Adresi/Correspondence:  
Özcan ÖZEKE  
Eskişehir Acıbadem Hospital,  
Clinic of Cardiology, Eskişehir,  
TÜRKİYE/TURKEY  
ozcanozeke@gmail.com

**Key Words:** Ventricular outflow obstruction; mitral valve

**Anahtar Kelimeler:** Ventriküler çıkış tıkanıklığı; mitral kapak

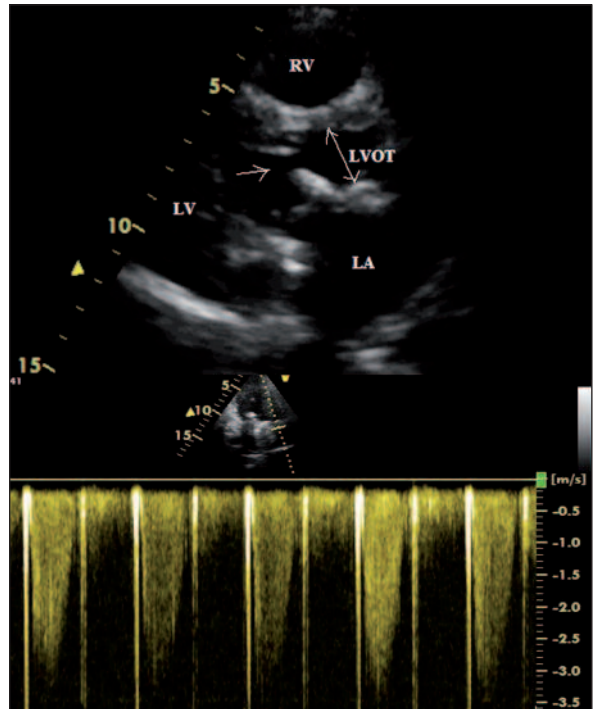
Türkiye Klinikleri J Cardiovasc Sci 2012;24(3):357-8

Copyright © 2012 by Türkiye Klinikleri

In this report, a case of left ventricular outflow tract obstruction six months following mitral valve replacement (MVR) was presented. A 40 years old male patient referred for echocardiography for his systolic murmur at aortic region six month after mitral valve replacement without doing subvalvular preservation. On echocardiography, the function of mitral metallic valve was normal; however, its ring direction was protrude into left ventricular outflow tract (LVOT) causing fix LVOT gradient with 49/29 mmHg (Figure 1).

There was a flow acceleration at LVOT with Color Doppler. Because of patient's mild effort dyspnea and moderate LVOT gradient; the patient was undertaken follow-up with medical treatment including beta blocker therapy.

In most cases of postoperative dynamic or fix LVOT obstruction after MVR, such obstruction results from the protrusion of a mechanical or bio-



**FIGURE 1:** Echocardiography shows obstruction between the struts of the mitral metallic prosthesis and the septum.

LVOT : Left ventricular outflow tract; LA: Left atrium; LV: Left ventricle, RV: Right ventricle.  
(See for colored form <http://cardiovascular.turkiyeklinikleri.com/>)

prosthetic valve into the LVOT or from abnormal preserved subvalvular apparatus.<sup>1,2</sup> If the prosthesis is not oriented properly, a strut may obstructs the outflow tract, as did presented case. Although preservation of the subvalvular apparatus during MVR preserves LV function rupture,<sup>3</sup> it has been shown that it harbors the potential for LVOT obstruction, particularly in presence of septal hyper-

trophy. In presented report, the patient had a mild septal hypertrophy but no history of operative preservation technique for subvalvular apparatus. Evaluation of the LVOT and the strut position of prosthetic valve by perioperative transesophageal echocardiography or epicardial echocardiography is essential in the prevention and treatment of this complication.

## REFERENCES

1. Melero JM, Rodriguez I, Such M, Porras C, Olalla E. Left ventricular outflow tract obstruction with mitral mechanical prosthesis. *Ann Thorac Surg* 1999;68(1):255-7.
2. Guler N, Ozkara C, Akyol A. Left ventricular outflow tract obstruction after bioprosthetic mitral valve replacement with posterior mitral leaflet preservation. *Tex Heart Inst J*. 2006;33(3):399-401.
3. Yun KL, Sintek CF, Miller DC, Schuyler GT, Fletcher AD, Pfeffer TA, et al. Randomized trial of partial versus complete chordal preservation methods of mitral valve replacement: A preliminary report. *Circulation* 1999;100(19 Suppl):II90-4.