

Figure 1. (a, b) Coronal image with cardiac synchronization and contrast only in left cavities which demonstrates the middle/distal third of the right coronary artery inside the right atrium (arrow). Plane images 4C oblique images following the axis of the artery. The intra-atrial path of the artery with contrast completely surrounding it. (c) With contrast in one phase. (d) With contrast in two phases to opacify the right cavities



Figure 2. Images with multiplanar reconstruction following the axis of the artery, demonstrating the intracavitary path of the artery. (a) With contrast in one phase. (b) With two-phase contrast to opacify the right cavities

the inferolateral portion inside the right atrium with an average length of 27.7 mm in three cases and a maximum depth of 5 mm. Our cases do not associate with other coronary anomalies. The symptoms (if any) are unknown. In a 2-year follow-up, no major cardiovascular events or cardiovascular death appeared. It is important to be aware that this anomaly is not visualized by coronary angiography. Apart from the lack of knowledge about its prognosis, its clinical importance may lie in the risk of accidental injury during endovascular procedures or in cardiac surgery.

Informed consent: About the consent: Since the series was collected retrospectively, it was not possible to request written consent from the patients, in any case there is no identifying data on them in the images.

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Left ventricular outflow tract obstruction due to residual native valve following mitral valve replacement

An 84-year-old female with history of bioprosthetic mitral valve replacement four years earlier presented with a progressively worsening dyspnea on exertion. A transthoracic echocardiogram (TTE) showed a mean gradient of 13 mmHg across the bioprosthetic valve (Fig. 1a). The TTE also noted a left ventricular outflow tract obstruction (LVOTO) gradient due to residual native valve tissue (peak gradient >130 mm Hg) (Fig. 1b, arrow) and an estimated right ventricular systolic pressure of 70 mm Hg. The transesophageal echocardiogram (TEE) corroborated that two out of three leaflets on the bioprosthetic valve had a significantly reduced motion (Fig. 1c and Video 1). In addition, a significant systolic anterior motion of the native mitral valve anterior leaflet (red arrows) was observed which had not been resected throughout the original surgery, resulting in a significant dynamic LVOTO (Fig. 1d and 1e and Video 1). She subsequently underwent redo bioprosthetic mitral valve replacement and resection of the native anterior mitral valve leaflet (Fig. 1f). The resected bioprosthetic valve revealed findings consistent with a degenerated valve prosthesis with calcified leaflets and significantly restricted motion (Fig. 1g, white arrows). Her postoperative course was unremarkable, and she was discharged on postoperative day 7.

Postoperative LVOTO may occur for a variety of reasons, including abnormal prosthetic position, hypercontractile ventricle, left ventricular hypertrophy, and a small ventricular cavity (1-3). Dynamic obstruction secondary to the preservation of native anterior mitral valve leaflet has also been outlined (our patient) (4, 5). This problem was likely exacerbated by the presence of a prosthetic stenosis. This case also highlights the importance of intraoperative TEE.

Informed consent: Informed consent was obtained from the patient.

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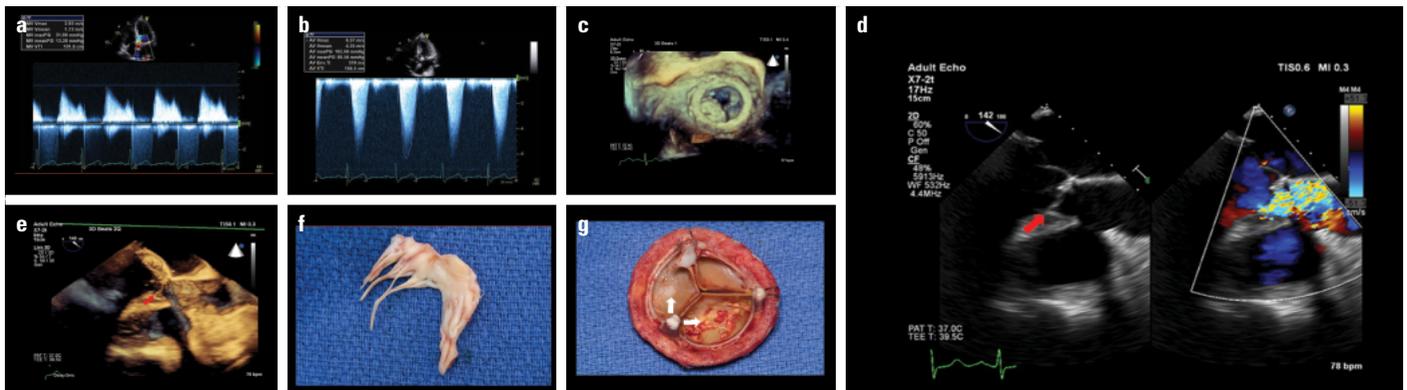


Figure 1. TTE showing elevated mean gradient across bioprosthesis mitral valve (a). TTE demonstrating LVOTO due to residual valve tissue (b). TEE confirming reduced bioprosthesis valve motion (c). Red arrow demonstrating systolic anterior motion of the native mitral valve (d and e). Resected native anterior mitral valve leaflet (f). Resected bioprosthesis valve with calcified leaflets (g, white arrows)

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Video 1. TTE in parasternal long axis revealing the presence of unresected native anterior mitral valve leaflet causing systolic

anterior motion and left ventricular outflow tract obstruction. 3D TEE demonstrating fixed leaflet in mitral valve prosthesis.

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