

Dyspnea after cardiac surgery – two unexpected echocardiographic solutions to a single symptom

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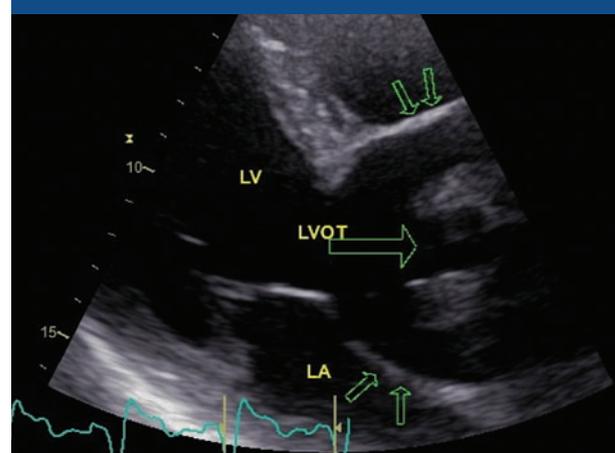
INTRODUCTION: We present two cases of the extremely rare and life-threatening cardiac surgery complications in patients presenting with dyspnea as the leading complaint, with echocardiographic imaging leading to a prompt and precise diagnosis.

CASE 1: A 41-year-old man was admitted to our department with the history of progressive dyspnea on exertion. Two years earlier a composite mechanical-valved conduit aortic root replacement (Bentall operation) had been performed due to severe regurgitation of the bicuspid aortic valve coupled with the aneurysm of the ascending aorta. Transthoracic echocardiogram demonstrated a 10 cm large aortic pseudo-aneurysm with the total dehiscence of the valved conduit at the site of the proximal anastomosis (**Figure 1**). The conduit was floating in the pseudo-aneurysmal cavity and was kept loosely in place by the tension of the coronary arteries, with preserved flow through the mechanical valve. Emergency surgery was performed. Intraoperatively, no signs of endocarditis were found, leaving suture line tension and connective tissue quality issue (due to underlying disease, namely BAV) as possible risk factors associated with the occurrence of the complication.

CASE 2: A 63-year-old man was referred to our department due to marked progressive dyspnea. A complex surgical procedure, namely aortic valve replacement with stentless bioprosthesis, ascending aorta and aortic arch reconstruction with dacron graft, triple aortocoronary bypass and mitral valve annuloplasty had been performed two months earlier in an out-of-country surgical center. Transthoracic and 3D transesophageal echocardiography revealed total dehiscence and migration of the mitral annuloplasty ring to the left ventricular outflow tract through the perforation of the anterior mitral leaflet, approximately 1 cm from the aorticomitral junction, causing severe mitral regurgitation (**Figure 2**). The patient recovered uneventfully after successful mitral valve replacement (with mechanical prosthesis).

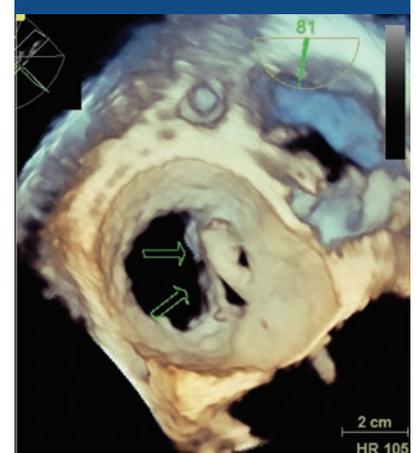
CONCLUSION: Due to its ready availability and high accuracy, echocardiography plays pivotal role in early diagnosis and appropriate management of the various complications following cardiac surgery.

FIGURE 1.



Parasternal long-axis view demonstrating the total separation of the mechanical-valved conduit (large arrow) within large pseudoaneurysm of the ascending aorta (delineated by the small arrows) from the left ventricular outflow tract.

FIGURE 2.



3D transesophageal echocardiogram demonstrating perforation of the anterior mitral leaflet by migrating mitral annuloplasty ring (arrows), from the left atrial view.

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