

Intermittent Aortic Intraprosthetic Failure

Insuficiência Intraprotética Aórtica Intermitente

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Intermittent mechanical prosthesis dysfunction is a rare and potentially serious complication^{1–4} that can affect prostheses in the aortic⁵ or mitral position. It causes obstruction or intermittent central regurgitation depending on the phase of the cardiac cycle in which the disk becomes stuck.³ The most common cause of this dysfunction is pannus formation,^{3,4} which may also occur due to thrombosis, mitral subvalvular tissue, suture material, vegetations, ventricular myocardium,³ or mechanical failure.² Left untreated, transient mobility loss leads to permanent disk immobilization.³ In this scenario, a patient in whom a size 21 Carbomedics® metallic aortic prosthesis was implanted 14 years prior was referred for echocardiography due to abnormal cardiac auscultation findings. Transthoracic and transesophageal echocardiograms showed significant intermittent central prosthetic regurgitant jet unrelated to arrhythmias (Figure 1; Videos 1 and 2).

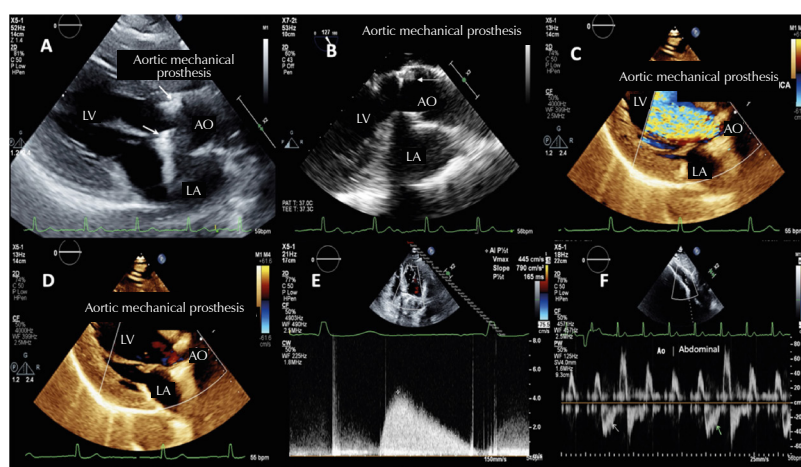
The mean prosthetic gradient was 29 mm Hg and the effective valve area was 1.08 cm². A refringent, periannular, fixed, sub- and supra-prosthetic image suggestive of pannus was also identified (Figure 2), which became the main etiological hypothesis for this unusual dysfunction presentation.

Authors' contributions

Data and images acquisition: LHM; Manuscript writing: DCR, LHM; Critical revision of the manuscript for important intellectual content: RGF e ACRO

Conflict of interest

The authors have declared that they have no conflict of interest.



AO, aorta; LA, left atrium; LV, left ventricle.

Figure 1 – Transthoracic echocardiography (A) and transesophageal echocardiography (B) images showing fixed (arrows) hyper-refractive sub- and supra-prosthetic images suggestive of pannus. Color flow mapping demonstrates significant aortic prosthetic regurgitation (C) with no signs of prosthetic regurgitation in the next cardiac cycle (D) on the same projection. Aortic prosthetic regurgitating jet with a pressure half-time of less than 200 msec (E). Presence of intermittent holodiastolic reversal flow in the abdominal aorta (F; arrows).

Keywords

Heart Valve Prosthesis; Echocardiography; Prosthesis Failure.

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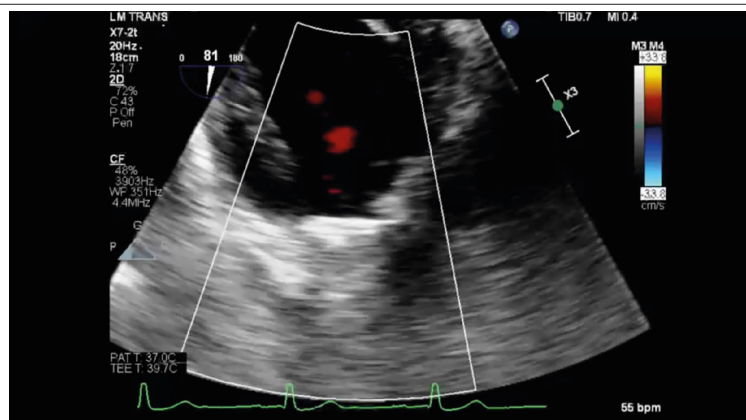
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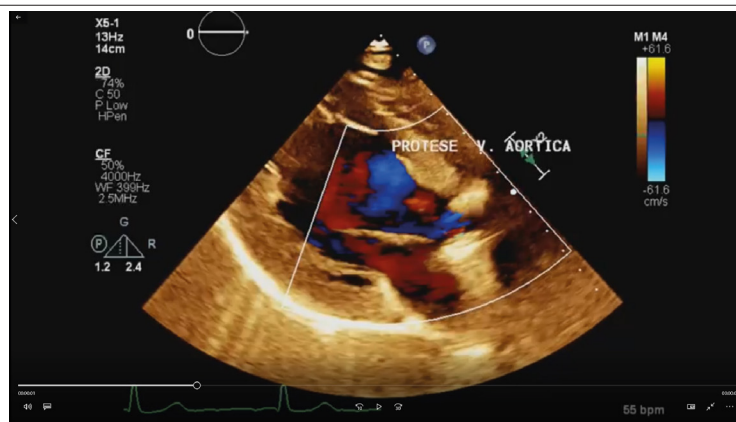
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Video 1 – Transesophageal echocardiography (trans-gastric view) showing intermittent aortic prosthetic regurgitation and a concomitant increase in left ventricular dimensions with a regular heart rhythm.



Video 2 – Transthoracic echocardiography (longitudinal parasternal view) showing the intermittent intraprosthetic regurgitant jet of the mechanical aortic prosthesis with a regular heart rhythm.

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