Intracardiac echocardiography imaging of periprosthetic valvular regurgitation

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A 62-year-old woman referred for evaluation of recent-onset dyspnoea at rest and a newly found systolic heart murmur, heard best at the apex of the heart. The patient’s history was notable for surgical mitral valve replacement 3 years ago, due to severe mitral regurgitation (myxomatous degeneration of the mitral valve). The transthoracic echocardiogram gave the impression of a mitral regurgitant jet, but the acoustic shadow of the prosthesis did not allow adequate evaluation of the regurgitation. A transoesophageal echocardiogram was performed showing a normally functioning mitral prosthesis, with a small periprosthetic leak (upper panel), disproportionate to the patient’s symptoms and marked signs of haemolysis. An intracardiac ultrasound study revealed a large paravalvular regurgitant jet, indicating significant periprosthetic regurgitation (lower panel). Intracardiac echocardiography is increasingly being used to guide percutaneous interventions and electrophysiological procedures. The present case suggests a potentially useful widening of the range of intracardiac ultrasound clinical applications, out of the realm of device-closure interventions and electrophysiological procedures. It appears that intracardiac echocardiography could become a second-line alternative to transoesophageal echocardiography, especially in patients with contraindication to the latter.

Keywords

Intracardiac echocardiography • Intracardiac ultrasound • Paravalvular regurgitation • Periprosthetic leak

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requiring clearer imaging of valvular function and structure and especially in those with contraindication to transoesophageal imaging.

**Supplementary data**

Supplementary data are available at *European Journal of Echocardiography* online.

**Conflict of interest:** none declared.