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REVIEW

Anatomical features of acute mitral valve repair dysfunction: Additional value of three-dimensional echocardiography

Formes anatomiques de la dysfonction précoce de plastie mitrale : rôle de l'échographie tridimensionnelle

Salomé Derkx^{a,1}, Virginia Nguyen^{a,b,c,1},
Claire Cimadevilla^d, Constance Verdonk^d,
Laurent Lepage^d, Richard Raffoul^d, Patrick Nataf^d,
Alec Vahanian^{a,b,c}, David Messika-Zeitoun^{a,b,c,*}

^a Department of Cardiology, AP–HP, Bichat Hospital, 75018 Paris, France

^b Inserm U1148, Bichat Hospital, 75018 Paris, France

^c University Paris Diderot, Sorbonne Paris Cité, UMR-S 1148, 75870 Paris, France

^d Department of Cardiac Surgery, AP–HP, Bichat Hospital, 75018 Paris, France

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KEYWORDS

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Summary Recurrence of mitral regurgitation after mitral valve repair is correlated with unfavourable left ventricular remodelling and poor outcome. This pictorial review describes the echocardiographic features of three types of acute mitral valve repair dysfunction, and the additional value of three-dimensional echocardiography.

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Abbreviations: 3D, three-dimensional; FMR, functional mitral regurgitation; MR, mitral regurgitation; OMR, organic mitral regurgitation; TOE, transoesophageal echocardiography; TTE, transthoracic echocardiography.

* Corresponding author. Cardiovascular Division, Bichat Hospital, AP–HP, 46, rue Henri-Huchard, 75018 Paris, France.

E-mail address: david.messika-zeitoun@aphp.fr (D. Messika-Zeitoun).

¹ S. Derkx and V. Nguyen contributed equally.

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MOTS CLÉS

Réparation valvulaire mitrale ;
Échocardiographie tridimensionnelle ;
Dysfonction

Résumé La récurrence d'une fuite mitrale après plastie mitrale est corrélée à un moins bon remodelage ventriculaire gauche et à un pronostique défavorable. Dans le présent article, nous décrivons trois formes différentes échocardiographiques de dysfonction précoce de plastie mitrale en insistant sur la valeur additionnelle de l'échocardiographie tridimensionnelle.
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Background

Mitral regurgitation (MR) is the second most frequent valvular disease requiring surgery, and is classified into two groups. Organic mitral regurgitation (OMR) presents intrinsic lesions of the mitral valve apparatus, and is mostly degenerative. Both the European Society of Cardiology and the American Heart Association/American College of Cardiology favour mitral valve repair over replacement when

feasible, because repair has lower perioperative mortality and improved survival, and avoids prosthetic complications [1,2]. Several repair techniques exist (leaflet resection, neo-chordae implantation, edge-to-edge repair, etc.), and are systematically associated with an annuloplasty ring [3,4]. In functional mitral regurgitation (FMR), the valve apparatus is structurally normal, and MR results from leaflet tethering and annular dilatation, secondary to left ventricular systolic remodelling and reduced dysfunction. Operative mortality

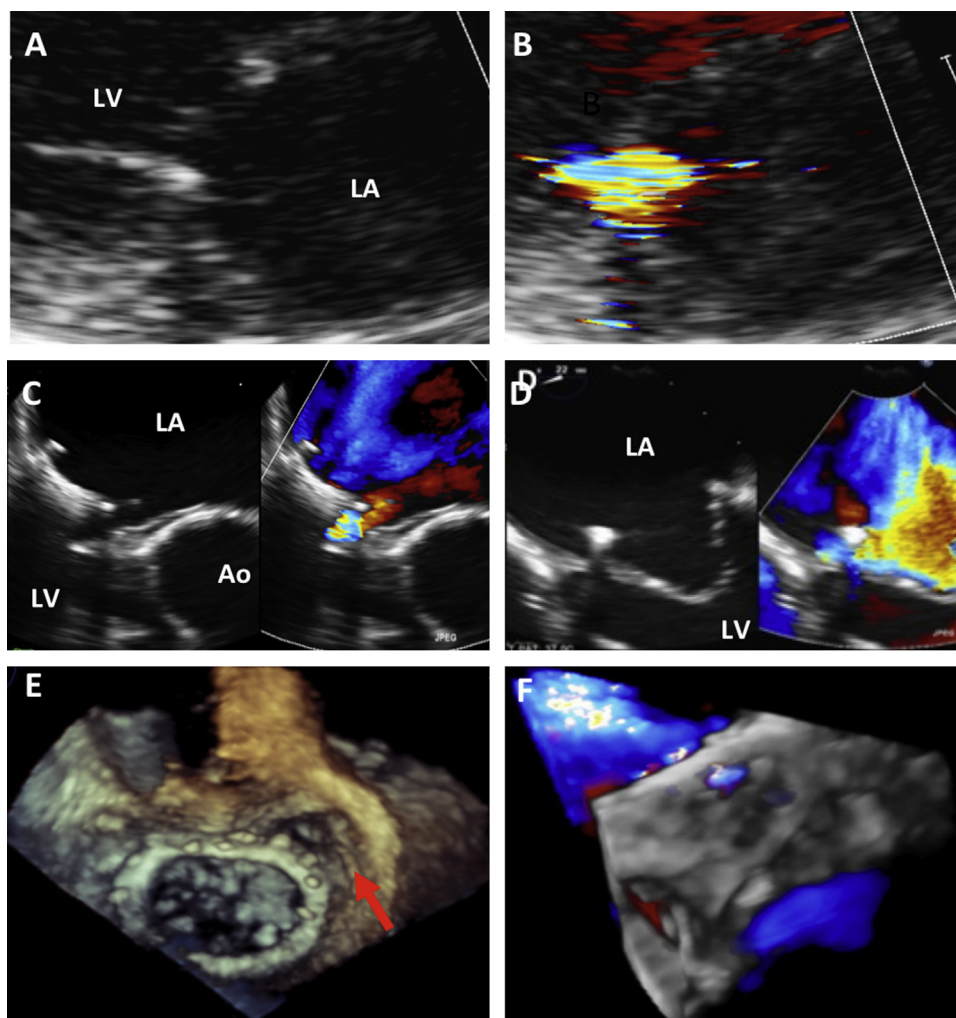


Figure 1. A and B. Two-dimensional transthoracic echocardiography showing mitral regurgitation. C and D. Transoesophageal echocardiography (TOE) showing that the mitral regurgitation is paravalvular with a continent repair. E. Three-dimensional TOE confirms from the left atrial view the tearing tissue area (arrow) on the anterolateral side above the mitral ring and the continent plasty. F. Full-volume colour Doppler image showing the paravalvular mitral regurgitation. Ao: aorta; LA: left atrium; LV: left ventricle.

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