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IMAGING IN CARDIOLOGY

Double orifice mitral valve visualized on echocardiography and MRI

C. B. Marcu · A. M. Beek · C. N. Ionescu · A. C. Van Rossum

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A 21-year-old, previously healthy, female presented with complaints of palpitations. The physical examination, ECG and a 24-hour Holter investigation were unremarkable.

A transthoracic echocardiogram demonstrated a double orifice mitral valve (DOMV) (Fig. 1). Cardiac magnetic resonance imaging was performed in order to exclude other congenital heart problems (Fig. 2). There was no evidence of mitral valve stenosis, regurgitation or other cardiac morphological abnormalities.

First described in 1876 by Greenfield [1], DOMV is an uncommon anomaly which, as its name indicates, has a single mitral annulus and opens into the left ventricle through two orifices. Depending on the relative size and location of the two orifices, DOMV can be classified into an eccentric type (found in 85% of cases) and a central or bridge type (as in our patient's case) [2]. Mitral stenosis or regurgitation and other congenital malformations such as atrioventricular or ventricular septal defects may be associated with DOMV [3, 4].

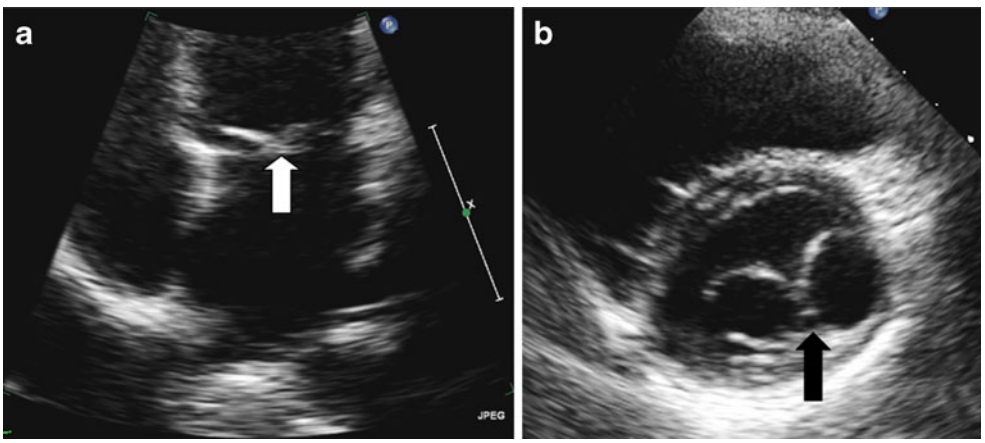

Fig. 1 Transthoracic echocardiogram. **a** Apical 4-chamber view with 'seagull' appearance of the mitral valve (white arrow); **b** Parasternal short axis with bridge of tissue (dark arrow) dividing the mitral valve into two equal orifices

C. B. Marcu (✉) · A. M. Beek · A. C. Van Rossum
Department of Cardiology, VU University Medical Centre,
de Boelelaan 1117,
1081 HV Amsterdam, the Netherlands
e-mail: bogdan.marcu@vumc.nl

C. N. Ionescu
Hospital of Saint Raphael,
New Haven, CT, USA

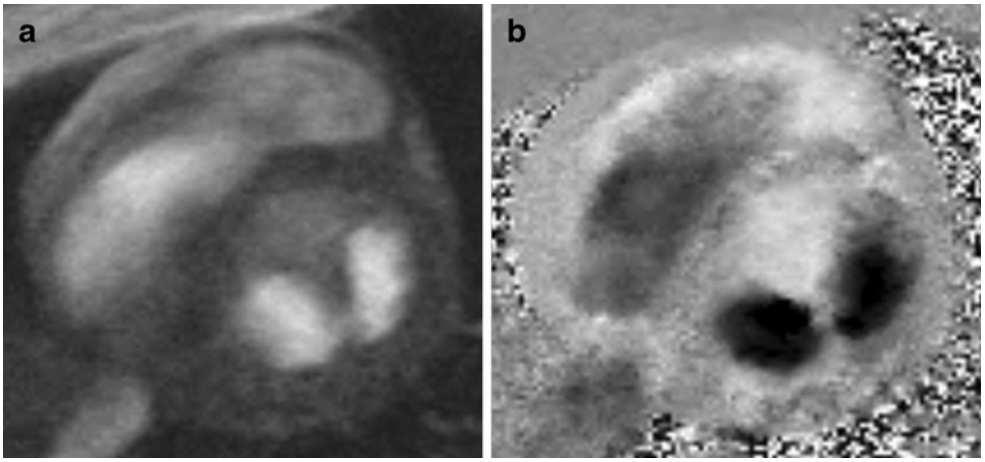

Fig. 2 Cardiac MRI. **a** Short-axis mitral valve gradient echo cine MRI image demonstrating the two orifices **b**) Corresponding phase contrast velocity encoded MRI (maximum velocity 100 cm/s) image demonstrating normal flow through the mitral valve

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