

Isolated left ventricular diverticulum in an adult: dynamic contrast-enhanced MRI findings

Erişkinde izole sol ventrikül-divertikülüm: dinamik kontrast MR bulguları

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Congenital ventricular diverticulum is a rare cardiac malformation initially described in 1838 (1). Congenital aneurysm and diverticulum of the left ventricle are rare findings that can be detected by both echocardiography and/or left ventricular angiography. Ventricular aneurysm and diverticulum can be differentiated by several criteria. Contractility is the only reliable parameter: aneurysm expands, whereas diverticulum contracts during ventricular systole. A 19-year-old woman, presenting with upper abdominal discomfort and palpitation, and sustained wide QRS tachycardia, was referred to our hospital. A 2D echocardiogram revealed left ventricular hypertrophy and an apical diverticulum. Dynamic cardiac magnetic resonance imaging (MRI) demonstrated a diverticulum originating at the apex of the left ventricle, near the interventricular

septum (Figure 1A, B). The ventricular diverticulum was attached by a narrow neck to the rest the left ventricle and was clearly visualized by MRI. The ostium of the diverticulum was opened at the anteroseptal wall, and the diverticulum itself did show active systolic contraction (Figure 2A, B). Although cardiac catheterization with left ventriculography can show the diverticulum, non-invasive dynamic cardiac MRI makes it easier to see the difference between the aneurysm and diverticulum. Congenital diverticulum is a rare lesion and is discovered during adulthood, and usually asymptomatic (2). Our case with congenital ventricular diverticulum that has been demonstrated by dynamic cardiac MRI, and the images suggest that dynamic cardiac MRI can be used for definition of this cardiac pathology.

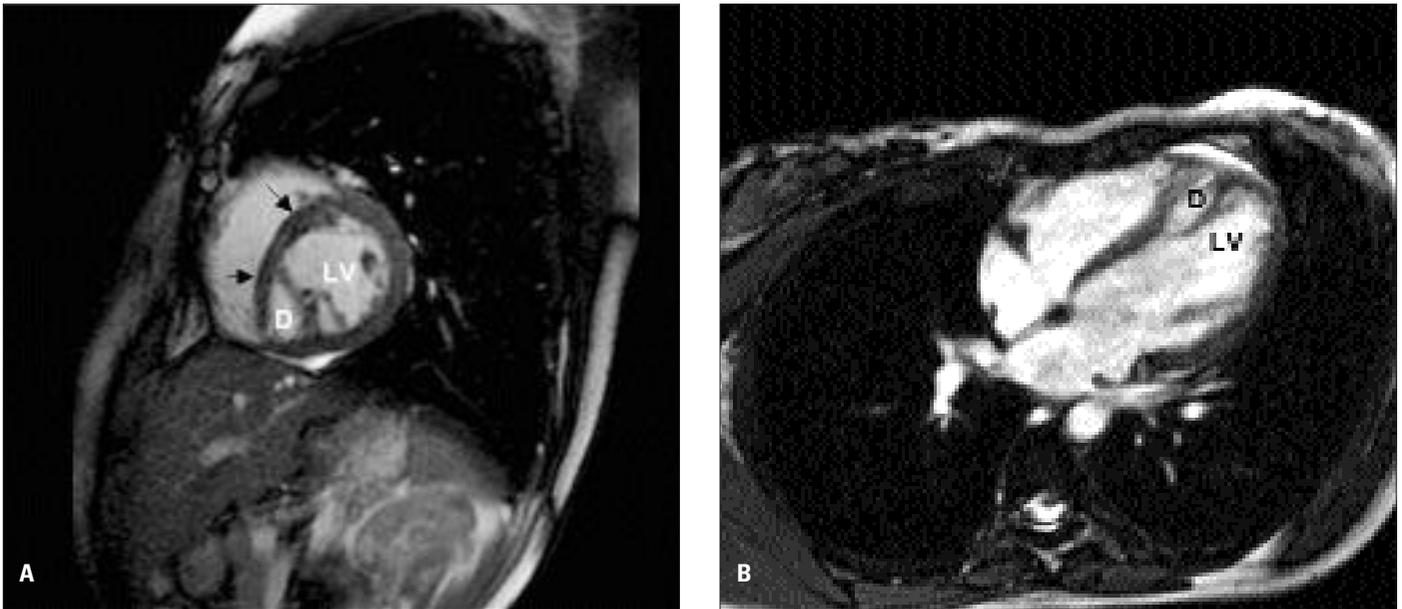


Fig.1. Dynamic cardiac MR images in sagittal (A) and axial (B) views shows the diverticulum originating at the apex of the left ventricle, near the interventricular septum (D: diverticulum; LV: left ventricle; MR: magnetic resonance, arrows: interventricular septum).

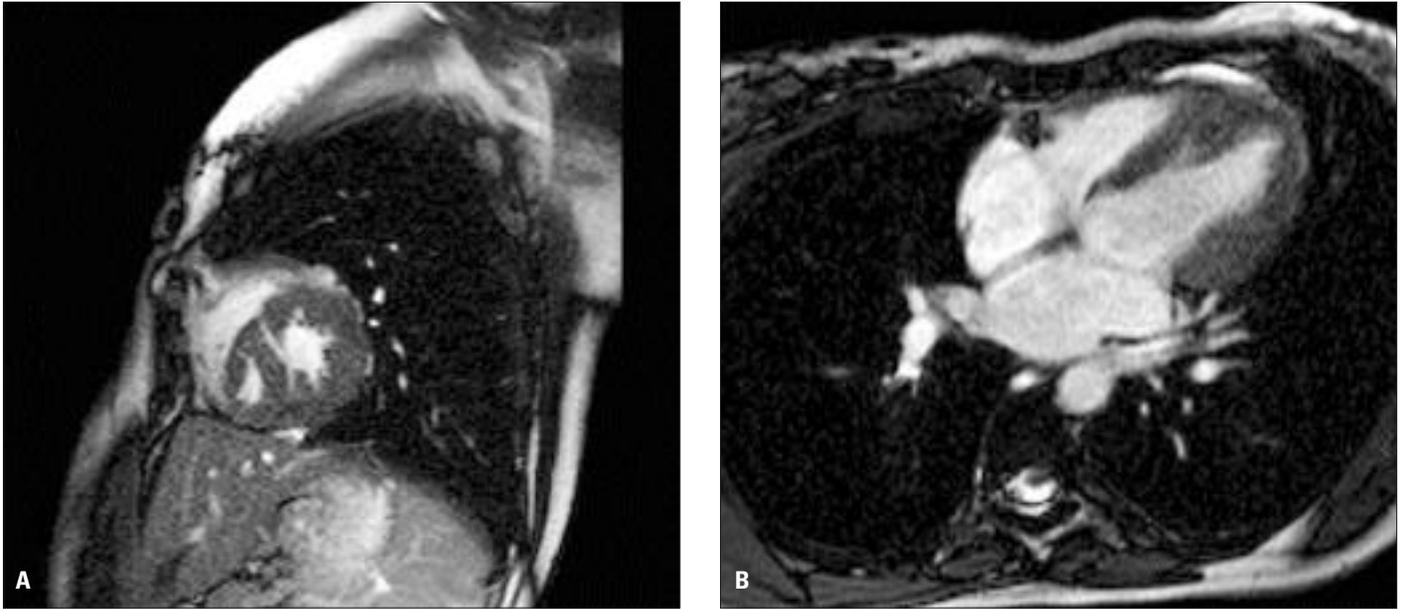


Fig. 2. Systolic phase dynamic MR images in sagittal (A) and axial (B) views show the diverticulum itself with active systolic contraction. (MR: magnetic resonance)

References

1. Gruberg L, Goldstein SA, Pfister AJ, Monsein LH, Evans DM, Leon MB. Cantrell's syndrome: left ventricular diverticulum in an adult patient. *Circulation* 2000;101:109-10.
2. Wu JM, Yu CY. Isolated congenital left ventricular diverticulum. *Pediatr Cardiol* 1996;17:254-6.