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Rapidly progressing coronary artery aneurysm and left ventricular diverticulum

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A 34-year-old woman with an uncomplicated peripartum, developed chest discomfort after operation of a ruptured splenic artery aneurysm. A detailed anamnesis revealed that the woman had a normal coronary angiogram seven years before (figure 1A-C). A 12-lead electrocardiogram showed T wave inversion in the precordial leads and the cardiac markers were positive. Coronary angiography revealed a diffuse aneurysmal dilatation in the left main coronary artery (LMCA), the left anterior descending (LAD) artery, the circumfex coronary (Cx) artery (figure 1B) and the right coronary artery (RCA), and also stenotic plaque in RCA (figure 1B-D). Left ventriculography and echocardiography revealed a left ventricular diverticulum (LVD) (figure 2A-B). Magnetic resonance imaging (MRI) was performed for a differential diagnosis between aneurysm and diverticulum. It revealed and confirmed an anteriorly located contractile diverticulum surrounded by normal myocardium (figure 2C-D).

Coronary artery aneurysm (CAA) is defined as a localized dilatation of the coronary artery passing the diameter of the related normal segment by more than 50%. It is seen in approximately 1.5-5% of patients undergoing coronary angiography[1]. Congenital ventricular diverticulum is a rare cardiac malformation and is defined as a protrusion of the free wall of the ventricles[2]. To the best of our knowledge, the combined presence of aneurysms of the major coronary arteries and a left ventricular diverticulum has not been described in the literature[3].

CONFLICT OF INTEREST: none declared.

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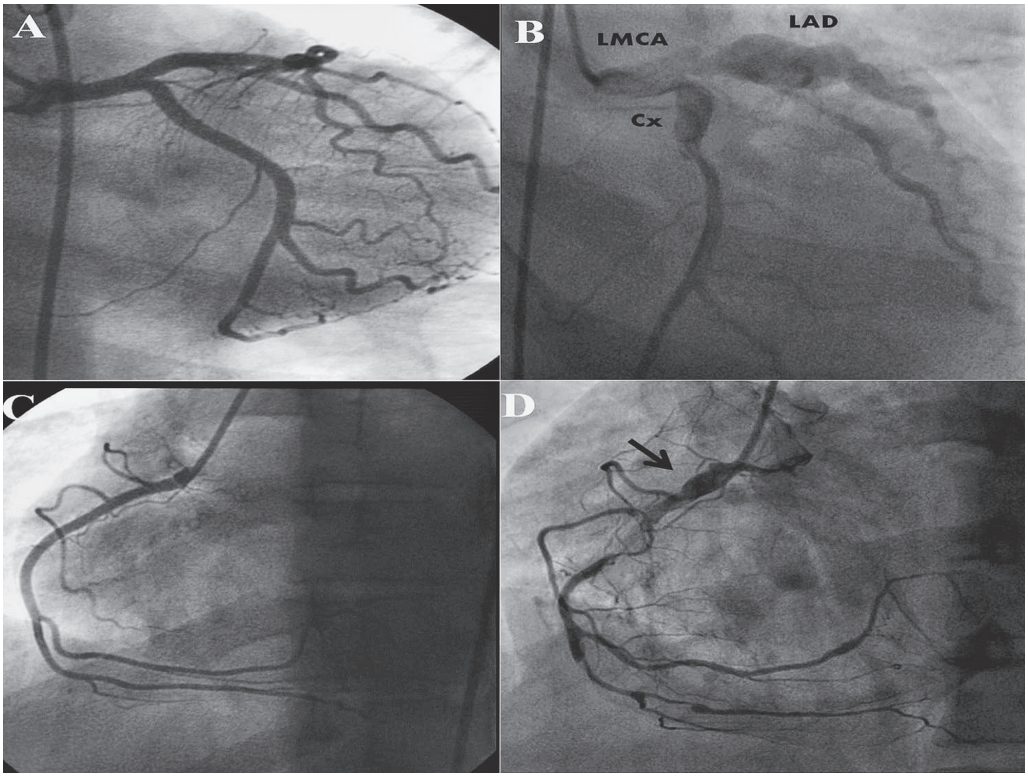

Fig. 1 (A) normal left coronary arteries; (B) aneurysmatic left main coronary artery (LMCA), left anterior descending (LAD), circumflex (Cx); (C) normal right coronary artery, (D) aneurysmatic right coronary artery.

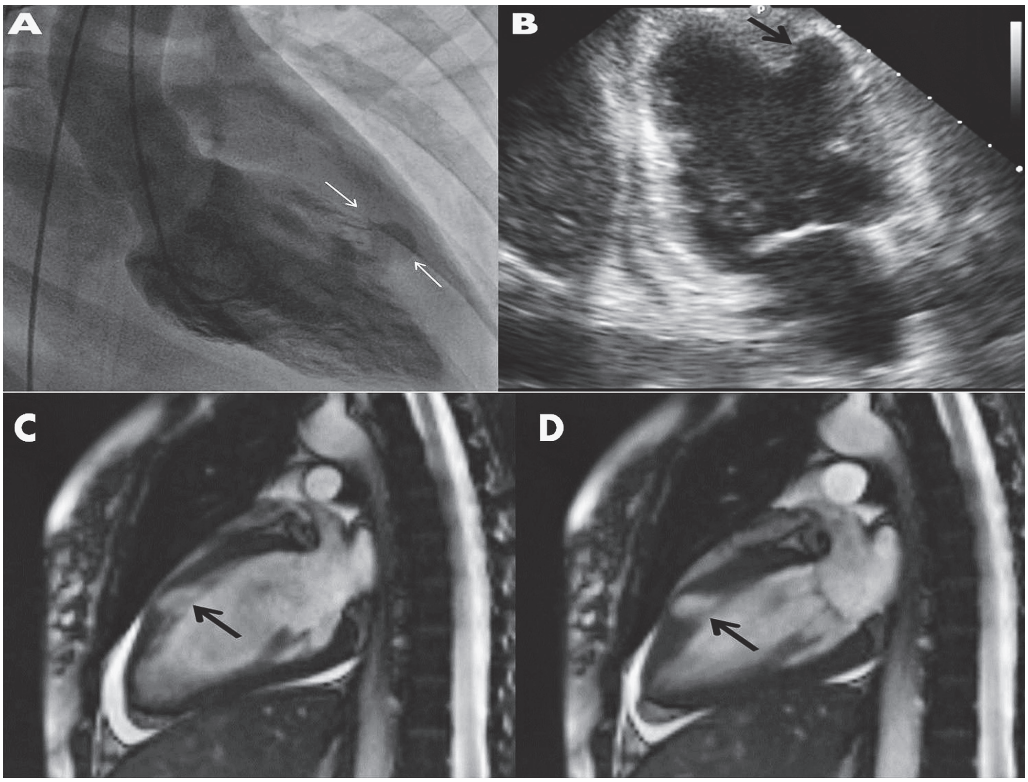

Fig. 2 (A) left ventriculography, diverticulum with white arrows; (B) echocardiography, diverticulum with black arrow; (C-D) magnetic resonance imaging, diverticulum with black arrow, diastolic and systolic phase.