An unusual cause of cardiomegaly

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A 38-year-old male patient was referred to our institution to study the origin of global cardiomegaly observed in a chest radiograph (Panel A). No remarkable data were reported in his medical record excepting hip fracture at the age of 3 after a road traffic accident, which required surgery. He was asymptomatic and medical examination was normal. Electrocardiogram (EKG) was also normal (Panel B).

Normal size of both ventricles was observed in echocardiography (Panel C); an echolucent space existed behind the posterior wall suggesting pericardial effusion. No echocardiographic signs of tamponade existed.

Magnetic resonance imaging (MRI) was performed to complete the study because of poor acoustic window. A large intrapericardial diaphragmatic herniation was diagnosed in black-blood T1-weighted coronal and axial images (Panels D and E), containing transverse colon and omentum, fat content was confirmed with fat suppression prepulse (Panel F). The herniation did not compromise ventricular function (Panels G and H). Conservative management with close follow-up was decided due to preference of the patient. He has remained asymptomatic for 12 months since the diagnosis.

Diaphragmatic rupture and intrapericardial herniation are generally the result of blunt trauma and increased intraabdominal pressure, generally in a motor vehicle accident. The diagnosis of this condition may be immediate, because of acute symptoms including cardiac tamponade, or delayed (average interval between injury and diagnosis: 4.8 years). We report a case of a massive intrapericardial herniation, which has probably remained asymptomatic for 35 years. This case also illustrates limitations of echocardiography to evaluate pericardial diseases; MRI has excellent contrast resolution and is an excellent technique to evaluate integrity of the diaphragm.

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