Recurrent hydatid cyst: ultrasound detection of an unusual cardiac embolic source

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A 51-year-old Moroccan woman with a sudden onset of perioral numbness and right-hand paresthesia was referred to our Emergency Department (ER). Brain MRI revealed altered signal areas in the left parietal-temporal lobe, suggesting cerebral embolization. She had a known diagnosis of cardiac echinococcosis (CE) and in 1991 she underwent median sternotomy to remove multiple hydatid cysts localized in the interventricular septum and in the right inferior pulmonary lobe. Echocardiography was performed to rule out a cardiac source of embolization. It showed a unilocular cystic lesion in the interventricular septum, with uniform anechoic content and detachment of the mobile floating membrane from the cyst wall, protruding into the left ventricular outflow tract and thus representing a potential source of embolization (Panel A). Cardiac MRI is the gold standard in the diagnosis of CE. However, due to the limited availability of radiological facilities in our ER, a total-body CT-scan confirmed the cardiac lesion as a recurrent hydatid cyst (Panel B). The patient was started on albendazole and underwent surgical removal of the cyst. Histology revealed a germinative membrane without any residual scolices inside the cyst.

Heart involvement in echinococcosis is unusual (1–2%). Recurrence after surgery is truly rare. It is usually the result of incomplete/ineffective removal (~3%). No ultrasound classification of CE cysts is currently available. According to the Liver WHO-IWGE international classification, this lesion resembles Type CE3, a transitional stage expression of active disease. The oval shape is likely related to decreased intracystic pressure due to embolization (Supplementary data online, Videos 1–5).

Panel A. Echocardiographic views. (top) Modified apical five-chamber view. Anechoic cyst with detachment of the laminated membrane from the cyst wall is visible as a floating membrane in the left ventricular cavity. (middle) Modified parasternal short-axis view. The less rounded cyst shape is due to the decreased intra-cystic fluid pressure because of embolization. (bottom) Zoom-in the modified apical four-chamber view showing a unilocular cystic lesion and its uniform anechoic content in the mid-portion of the interventricular septum and the massive mobile irregular membrane protruding into the left ventricular outflow tract. Panel B. Contrast-enhancement CT scan. (top) Contrast-enhancement CT. Coronal MPR. The image is focused on the inter-ventricular septum and the massive mobile irregular membrane protruding into the left ventricular outflow tract. (middle and bottom) Contrast-enhancement CT. Sagittal MPR (middle) and VRT (bottom). CT scan shows a thin-walled unilocular cyst with water-attenuation (medium density of 6 U.H.) and no contrast enhancement. The cyst is located within the mid-inter-ventricular septum and is surrounded by myocardial tissue. (arrow) Floating membrane, from the cyst wall, protruding in the left ventricular outflow tract.

A-Ao, ascending aorta; AV, aortic valve; C, cyst; W, cyst wall; LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle; P, main pulmonary artery; IVS, interventricular septum; LVOT, left ventricular outflow tract.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.