A 66-year-old male patient was admitted to the cardiology department with a new-onset angina. He had a history of hypertension, pericardiocentesis 24 years ago, coronary angiography, and percutaneous coronary intervention ≈ 4 years ago. He was on medications, including acetyl salicylic acid, clopidogrel, metoprolol succinate, valsartan, and hydrochlorothiazide. The results of his physical examination and biochemical tests were normal. ECG showed negative T waves on the D1, aVL, V5, and V6 derivations and ST-segment depression in inferior leads (Figure 1). Chest radiograph showed cardiomegaly and calcification on the apicolateral wall of the left ventricle (LV) (Figure 2). With the diagnosis of unstable angina, coronary angiography (Toshiba Infinix CSi, Japan) was performed and revealed critical coronary stenoses. On fluoroscopy, a structure of 2 pieces with a calcified wall, close to the apical and basal regions of the LV, was noted (Figure 3). Then, transthoracic echocardiography was performed (Vivid S6, GE Healthcare) and revealed a structurally normal heart, with the exception of the presence of a heterogeneous, mobile mass (2.3×1.9 cm) within the LV cavity (Movies I through IV in the online-only Data Supplement). This mass appeared to be attached by a broad base to the basal posterolateral wall of the LV. No significant flow abnormalities were demonstrated by either pulsed or continuous wave Doppler analysis, with the exception of mild cardiac compression. With the diagnosis of a LV mass detected during transthoracic echocardiography, multislice computed tomography was performed to make a differential diagnosis. Multislice computed tomography (Siemens, Somatom Emotion, 16 slice, Germany) revealed a calcified wall, the hypodense and heterogeneous structure of the 2 pieces that had dimensions of 94×43×53 mm and 45×40×42 mm with an average density of 9 Hounsfield units (Figure 4A and 4B), and a lobulated contoured cystic lesion extending into the myocardium (Figure 5A and 5B). The dense pericardial calcification that
is located outside the LV and left atrium was detected to lead to mild compression of the heart, and an intracavitary mass was excluded. Previously formed loculated pericardial effusion and pericardiocentesis and eventual massive calcification might be the basis of the peculiar calcification in this patient, and positive serology for hydatid cyst suggested hydatid cyst as the possible causative agent of the lesion. Because of the presence of mild compression of the heart by the calcified pericardial lesion and critical stenoses on coronary angiography, combined surgery of pericardiectomy and coronary artery bypass grafting was offered, but the patient refused the operation. Therefore, he underwent stent implantation for coronary lesions (Movies V and VI in the online-only Data Supplement), and he was well at the 11-month follow-up.

Pericardial and paracardial sites of echinococcal implantation are uncommon. Nearly 10% of all cases of myocardial hydatid cyst rupture into the pericardium, and most of these events are fatal. The symptomatology of patients with a pericardial hydatid cyst includes chest pain, dyspnea, and some other nonspecific cardiac concerns; however, patients may also be entirely asymptomatic.

With the peculiar image of a shell-like appearance on the 3-dimensional multislice computed tomography, we aimed to draw attention to isolated pericardial involvement and the asymptomatic disease course in cardiac echinococcosis especially in endemic regions (such as our country/city) and to highlight the role of the initial chest radiograph in the diagnostic workup.

Figure 2. Roentgenogram shows calcification on the apicolateral wall of the left ventricle.

Figure 3. The dense calcification around the heart is detected by fluoroscopy.
Disclosures

None.

References


Figure 4. A, Front views of the dense pericardial calcification observed on 3-dimensional computed tomography. B, Side views of the dense pericardial calcification observed on 3-dimensional computed tomography.

Figure 5. A, Two-dimensional MPR reformat of the image observed on computed tomography, sagittal planes. B, Two-dimensional MPR reformat of the image observed on computed tomography, coronal planes. MPR indicates multiplanar reformatted.
Eggshell-Like Appearance Around the Heart Mimicking Left Ventricular Mass
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