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Letter to Editor

Ghost Passenger in the Heart: The Story of an Intracardiac Cyst Dancing with Coronary and Peripheral Embolisms

Nergiz Aydın [1], Ahmet Lütfü Sertdemir [1], Yakup Alsancak [1]

[1] Department of Cardiology, Necmettin Erbakan University Faculty of Medicine, Konya, Türkiye

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Corresponding Author
Nergiz Aydın, MD
Address: Necmettin Erbakan University, Department of Cardiology, Konya, 42000, Türkiye
E-mail: nrgz.ydn@hotmail.com

Abstract

Cardiac localization of hydatid cyst, which is a parasitic disease, is rare. In this article, a case of mediastinal hydatid cyst invading the left atrium is presented. A 62-year-old male patient with risk factors for coronary artery disease presented with epigatric pain, nausea and vomiting. Coronary imaging was performed because ongoing epigatric pain was accompanied by ischemic changes and elevated troponin on electrocardiography. No occlusive lesion was observed in the epicardial coronary arteries. Mesenteric embolism was detected in the patient whose epigatric pain continued. The patient, who did not accept surgery after the initial diagnosis, developed peripheral and cerebral emboli in the following period, and the patient was referred for surgery.

Keywords: Intracardiac hydatid cyst, Acute coronary syndrome, Mesenteric ischemia, Echinococcus granulosus, Left atrium

Dear Editor,

Hydatid cyst is a zoonotic disease caused by Echinococcus granulosus larvae. Human infection most commonly occurs in the liver and lungs. Mediastinal involvement is extremely rare, there are a few case examples in the literature [1,2]. Cardiac involvement can be observed through the adjacent mediastinal hydatid cyst. The incubation period of the disease may last for many years until the hydatid cyst grows large enough to trigger clinical symptoms. Cysts of cardiac origin may present with tamponade or systemic embolism findings, mimicking acute coronary syndrome [3]. We aimed to present our case of mediastinal hydatid cyst, which presented with peripheral and cerebral multiple emboli following mesenteric ischemia.

Patient Information

A 62-year-old man with a known history of hypertension and coronary artery disease presented to the emergency department with epigastric pain and nausea and vomiting. His electrocardiogram (ECG) was in sinus rhythm with ST depression and T negativity in the anterior leads. The patient with persistent pain, ischemia findings on ECG and elevated troponin was taken to the coronary angiography laboratory, but no occlusive lesion was observed in the epicardial coronary arteries. Mesenteric computed tomography angiography (CTA) was performed because of persistent epigastric pain during post-angiography follow-up. The superior mesenteric artery (SMA) was occluded on CTA. In addition, a mass containing cystic-necrotic areas invading the atrium was observed in the mediastinum. The patient was operated for mesenteric ischemia. The patient who was scheduled for surgery for intracardiac hydatid cyst refused the operation. One month after the initial presentation, the patient presented to the emergency room with speech disturbance, numbness in the legs and syncope. Diffusion magnetic resonance imaging (MRI) showed diffusion restrictions

in the right cerebellar region and bilateral cerebral hemispheres (Figure 1). Lower extremity CTA showed total occlusion of the right popliteal artery (Figure 2). Cardiac MRI showed a 65*50 mm hydatid cyst lesion in the mediastinum above the left atrium, projecting into the lumen, smoothly circumscribed, with small cysts of daughter vesicles. (Figure 3). The patient was referred for surgery.

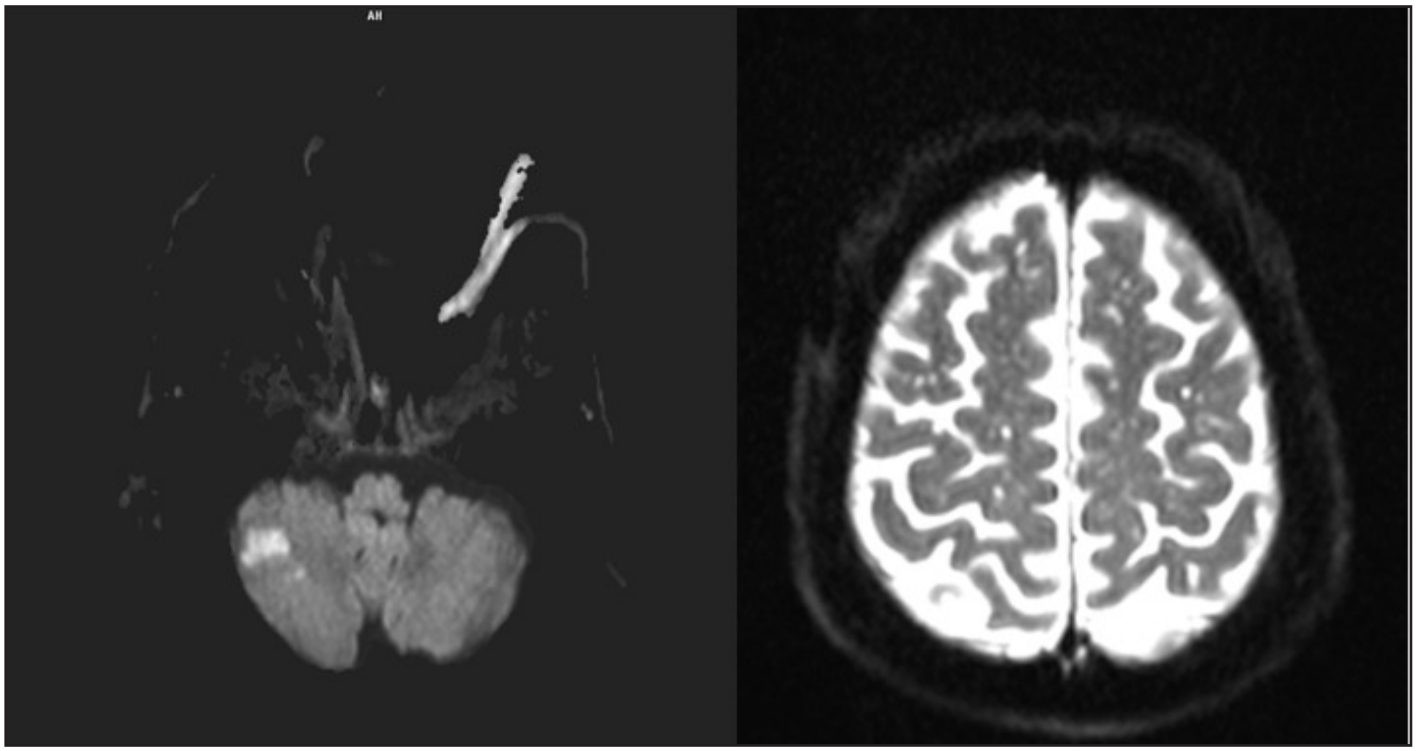

Figure 1.**A.** Diffusion restriction in the right cerebellar region, **1.B.** Diffusion restrictions in bilateral cerebral hemispheres

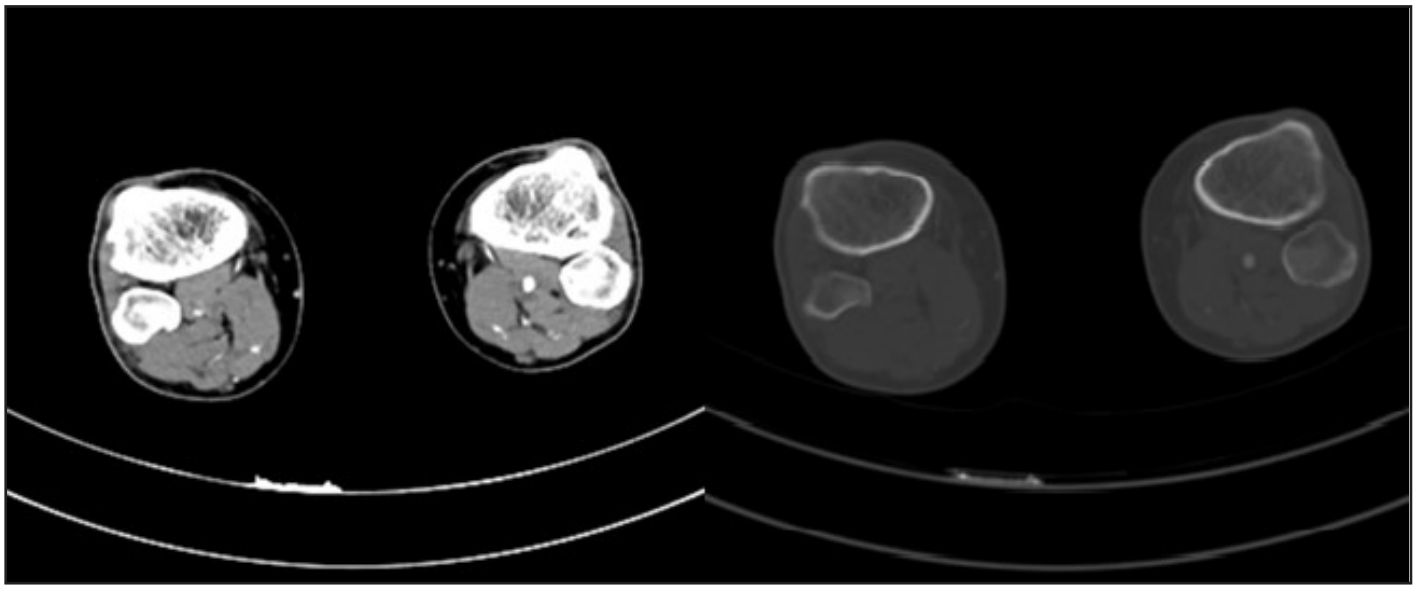

Figure 2. Right popliteal artery occlusion

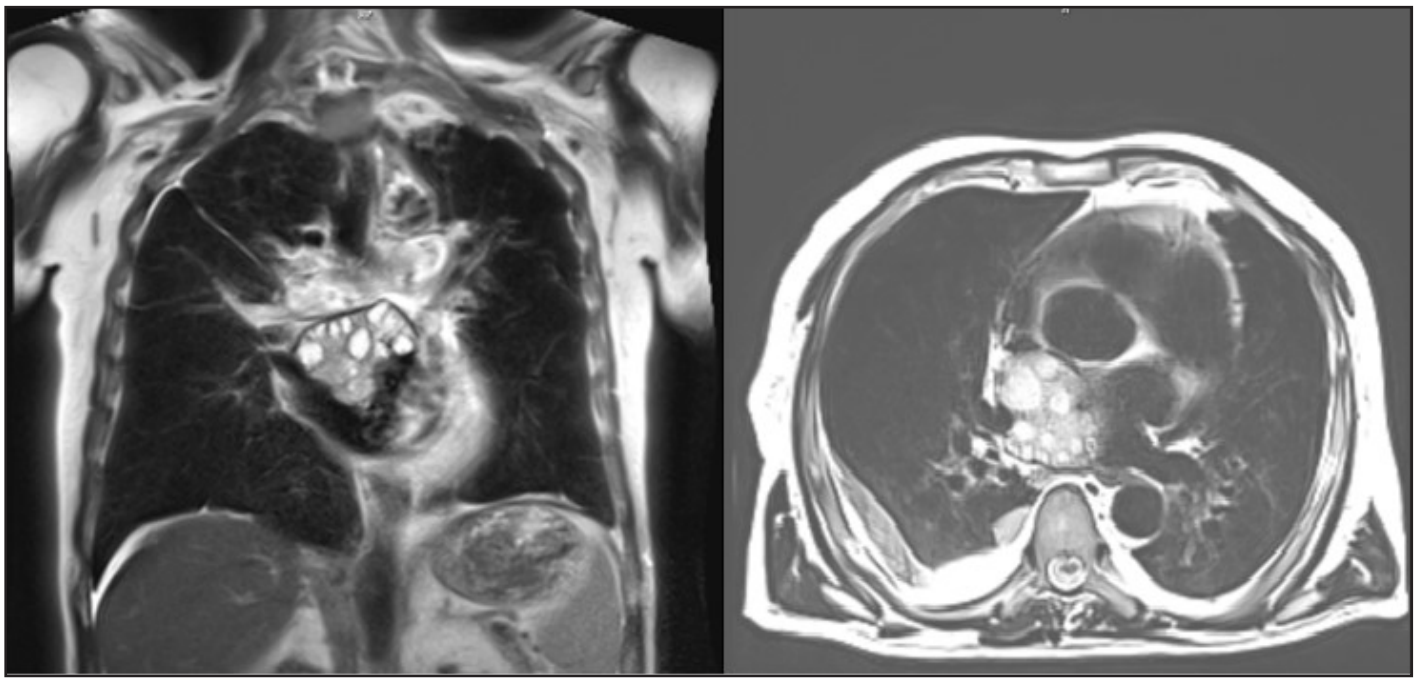

Figure 3. Coronal and axial sections of a 65*50 mm hydatid cyst lesion in the mediastinum above the left atrium with small cysts of daughter vesicles projecting into the lumen, smoothly circumscribed.

DISCUSSION

Cardiac hydatid cysts account for 0.5% to 2% of cases. This is due to the continuous contraction of the heart, which prevents invasion of parasite eggs into the myocardium despite the presence of viable cysts [4]. The left ventricle and right ventricle are most commonly affected, while the pericardium, left atrium, right atrium and interventricular septum are less common locations. Most patients with cardiac hydatid cysts are asymptomatic due to the slow growth of hydatid cysts (~1 cm per year), with symptoms occurring in approximately 10% of patients [5]. In symptomatic cases, symptoms are non-specific and vary depending on the number, size, location and local damage of the cysts. They may mimic symptoms of valvular diseases. Cardiac hydatid cyst-related bundle branch block, arrhythmias, myocardial infarction and sudden cardiac death have been reported [6]. There is a tendency to cause pulmonary embolism and CTEPH [7]. Intracardiac hydatid cyst cases may mimic acute coronary syndrome [8,9]. Cases presenting with neurologic symptoms have been reported [10]. Chest pain and dyspnea are the most common symptoms, precordial pain is usually vague. It may occur due to compression of the myocardium by hydatid cysts or by coronary emboli with typical angina. This may lead to misdiagnosis, especially in elderly patients with risk factors for coronary artery disease. In our case, coronary angiography was performed to exclude the possibility of coronary artery disease because epigatric pain was accompanied by ischemic changes on electrocardiography. The diagnosis of cardiac hydatid cyst is usually made by echocardiography and serologic tests. However, computed tomography and magnetic resonance imaging are sometimes needed when echocardiography is insufficient for the initial diagnosis. Patients with cardiac echinococcosis may present with a wide range of clinical findings, including typical angina. Especially in endemic areas, cardiac hydatid cyst should be considered in the differential diagnosis of patients with chest pain, even in those without a history of hydatid disease.

Yours sincerely,

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Each author takes responsibility for all aspects of there liability and freedom from bias of the data presented and their discussed interpretation. Written informed consent was obtained from patient.

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