Case Report

Isolated Invasive Endomyocardial Cystic Echinococcosis Presenting with Heart Failure

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1. Introduction
Cardiac cystic echinococcosis is a rarely encountered parasitic infestation caused by Echinococcus granulasus larvae [1, 2]. Cardiac cystic echinococcosis comprises 0.5–2% of all human cystic echinococcosis cases. The most commonly involved organs are liver (55–70%) and lung (18–35%) [3]. Cardiac cystic echinococcosis usually accompanies other organ involvement. Isolated cardiac involvement is very rare. We present a case of isolated apical cardiac cystic echinococcosis which leads to heart failure.

2. Case Presentation
A 77-years-old female was referred to our clinic for evaluation of worsening heart failure. She had no history of international travel. During etiological evaluation of heart failure, echocardiography revealed an ejection fraction of 40% with a multilobular cystic structure localized to intramyocardial left ventricular apex (Figure 1). Computed tomography confirmed the diagnosis (Figure 2) and screening of other organ involvement including brain, lung, and liver were negative for cystic echinococcosis. Serum indirect hemagglutination assay test for Echinococcus granulasus was positive. Thus, diagnosis of isolated cardiac apical cystic echinococcosis was confirmed. The patient was recommended surgery, however, patient refused the surgical operation.

3. Discussion
Cystic echinococcosis is a parasitic infestation seen endemically in South America, South Europe, Africa, Turkey, Australia, New Zealand, and India due to E. granulosus [1, 2]. Larvae of E. granulasus are excreted in feces of definite hosts like cat, dog, and wolf. Humans are infected by the food contaminated with these larvae and become intermediate hosts [3].

Cyst hydatid mostly involves liver (55–70%) and lung (17–35%), however, cardiac involvement is rare (0.5–2%). Cardiac involvement are usually accompanied by other organ involvement [4, 5]. Cardiac cystic echinococcosis involves most commonly left ventricle (75–55%), right ventricle (15–18%), interventricular septum (5–9%), right atrium (3–4%), and interatrial septum (2%). Less commonly it involves pericardium and pulmonary artery. Cardiac cystic echinococcosis most commonly involves left ventricular wall possibly due to increased coronary blood flow [6].

Cardiac cystic echinococcosis is usually asymptomatic. Symptoms vary according to localization and dimensions of the cyst. Patients usually present with three main symptoms:
dyspnea, chest pain, and palpitations. Other rare symptoms include fever, cough, hemoptysis, syncope, and sudden death. Our patient was suffering from dyspnea due to pulmonary edema.

Although cystic echinococcosis grows usually very slowly in the myocardium and may remain asymptomatic for a long period it can also show rapid progression [7]. Early diagnosis of cardiac cystic echinococcosis is rather difficult because of long interval between beginning of the infestation and development of symptoms and besides symptoms are nonspecific [8].

Diagnosis of cardiac cystic echinococcosis is easier in the presence of other organ involvement like liver and lung, but it is difficult in isolated cardiac involvement. Although CT and MRI give detailed information about the cyst and its localization, echocardiography is the best noninvasive method for diagnosis of cardiac cystic echinococcosis [9].

Although the course of cardiac cystic echinococcosis is usually asymptomatic, it may cause life-threatening complications including sudden death, anaphylactic shock, peripheral pulmonary emboli and cerebral emboli, acute coronary syndrome, heart failure, and arrhythmia. Therefore, cardiac cystic echinococcosis should be treated by surgical intervention even they are asymptomatic.

In conclusion, cardiac cystic echinococcosis is generally accompanies other organ involvement, however, it might be isolated as in the present case and although rare, it can cause heart failure.

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