A Case of Asymptomatic Cardiopericardial Hydatid Cyst

Aytekin GUVEN,¹ MD, Gulizar SOKMEN,¹ MD, Murvet YUKSEL,² MD, Omer Faruk KOKOGLU,³ MD, Nurhan KOKSAL,⁴ MD, and Ali CETINKAYA,⁵ MD

SUMMARY

Cases with cardiac hydatid cyst disease are uncommon, being approximately 0.2-2% of all cases. Most cardiac hydatid cysts are located in the interventricular septum or left ventricular wall. Pericardial location is very rare. We report a 42-year old Turkish man with pericardial hydatid cyst disease who was otherwise asymptomatic, having no cardiac symptomatology. The most appropriate therapeutical option for a hydatid cyst is surgical removal of the cyst mass. However, our patient refused surgical treatment and thus medical treatment with albendazole was initiated. Following the first month of the drug therapy, pericardial effusion disappeared. The cystic nature of the mass disappeared and was solidified at the 6th month of treatment. The patient has been followed-up by us asymptomatically. (Jpn Heart J 2004; 45: 541-545)

Key words: Cardiac cyst, Pericardial cyst, Albendazole therapy

HUMAN hydatid disease caused by Echinococcus granulosus is of worldwide importance and presents medical, veterinary, and economic problems in developing countries. Echinococcal disease is endemic to sheepherding regions of the world, and it affects the heart in fewer than 2% of patients infected by the parasite.¹)

Herein we describe an unusual echocardiographic appearance of an echinococcal lesion attached to the left ventricular apex of an asymptomatic patient.

CASE REPORT

A 42 year old male patient visited a chest disease clinic due to symptoms of respiratory infection and was referred to our clinic due to an increased cardiothoracic ratio on chest roentgenogram. The patient did not suffer from any cardiovascular complaint in his medical history. On physical examination, his
blood pressure was 130/80 mmHg and his pulse was 82 /min and regular. Other findings of physical examination, including a cardiovascular examination, were normal. On complete blood count, hemoglobin was 13.4 g/dL, hematocrit was 37.8%, white blood cell count was 7600/dL, and eosinophil ratio was found 12%. The erythrocyte sedimentation rate was 22/hour. Biochemical analysis revealed normal results. Electrocardiogram was normal. There was no other abnormality on chest X-rays apart from an increased cardiothoracic ratio. Echocardiographic (Acuson model Aspen, Acuson Computer Sonography, Mountain View, California) examination detected a regularly contoured cystic mass attached to the left ventricular apex in the intrapericardial cavity together with minimal pericardial effusion around cystic mass (Figure 1). All other echocardiographic findings were normal. The indirect hemagglutination inhibition test for echinococcus was positive in 1/1600 titers. The serum IgE level was 650 units/L (range 0-150 units/L). On spiral computed tomography (CT), a cystic mass in accordance with a hydatid cyst (33.3 x 43.6 mm) was found attached to the left ventricular apex in the pericardial cavity (Figure 2). The results of respiratory function test, abdominal USG, and lung and cranial CT were all normal.

Although the patient was asymptomatic, he was given albendazole therapy due to the potential risks and complications of a hydatid cyst. The albendazole therapy consisted of three cycles of 400 mg twice a day for 4 weeks, followed by a 2-week rest period without therapy, because of its greater absorption from the gastrointestinal tract and higher plasma levels.

Figure 1. Transthoracic two-dimensional echocardiogram of parasternal long-axis view showing a cystic mass in the pericardial cavity.
Control echocardiography, which was performed one month after the drug therapy, revealed the pericardial effusion around the cystic mass had disappeared. A control CT of the case after six months of treatment showed that the mass had decreased in size (25.9 x 39.5 mm) and solidified (Figure 3). Since it takes a long
time for a cystic mass to get smaller and disappear, we are continuing medical
treatment and follow-up at our outpatient clinic. There have not been any compli-
cations.

**DISCUSSION**

Humans become infected during accidental ingestion of food or water con-
taminated by tapeworm eggs. After the eggs are ingested, they pass into the small
bowel, where they hatch and are absorbed. Next, the parasites travel through the
bloodstream and eventually establish cystic lesions in various organs. The liver is
the most likely organ to be involved through portal drainage, but any organ may
be infected. Each cystic lesion contains fluid and multiple secondary daughter
cysts.2,3) Our patient was not a stockbreeder and he has no pets in his house. Con-
tamination by a hydatid cyst might be due to the widespread consumption of gib-
lets (edible visceral organs of birds) in our region of Turkey.

The heart is rarely involved in echinococcal disease. Cysts may reach the
heart through the lymphatic system or by escaping the liver and lung filters during
primary infection. The myocardium becomes involved when the cysts travel
through the heart and reach the myocardium by the coronary circulation.

The distribution of cardiac echinococcosis parallels that of coronary blood
flow, and most lesions (60%) occur within the left ventricle. Fifteen percent of
lesions affect the right ventricle, and 15% affect the ventricular septum. Atrial
involvement is rare. Two to 10% of cysts occur in the pericardium.4)

Clinical presentation of a cardiac hydatid cyst varies widely and its diagno-
sis is very difficult. As well as being small and solitary, cardiac cysts may remain
asymptomatic for many years. When they are huge or exist in large numbers, they
may lead to symptoms and signs similar to the mass of a cardiac tumor. They may
cause many cardiac events such as angina pectoris, palpitations, and arrhyth-
mias.5) A cyst localized in the intrapericardial cavity may cause pericarditis and/
or cardiac tamponade.6) Anaphylactic reactions may develop in some patients due
to the antigenic properties of cystic fluid. In this patient, there was minimal effu-
sion around the cyst and it disappeared following the albendazole therapy. There
were no signs and symptoms indicating pericarditis in our patient.

The best treatment method for a cardiac hydatid cyst is surgical interven-
tions.7) However, because our patient was asymptomatic, he refused to have an
operation. Thus, albendazole therapy was given to the patient. We found favor-
able results in similar cases administered albendazole in the literature.8,9) In our
case, the size of the cyst was unchanged after the first month of therapy. But the
reactive pericardial effusion disappeared. After almost six months, the cyst had
decreased in size and solidified on control CT. This indicated that the cyst also
became radiologically inactive following the albendazole treatment. It is recommended that albendazole treatment be given to the patient for at least one year. Our patient has been taking albendazole and is being followed-up by our clinic regularly.

REFERENCES