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Three-year follow up of recurrent cardiac echinococcosis simulating myxoma: report of a rare case

Nadir görülen bir olgu: Miksomayı taklit eden tekrarlayıcı kardiyak ekinokokozis ve 3 yıllık takip

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Introduction

Cardiac echinococcosis is a rare disease and accounts for approximately 0.5-2% of all hydatid cases (1). Diagnosis of cardiac hydatid cyst is easy with typical cystic appearance on echocardiography; however, it may rarely be difficult to distinguish it from cardiac myxoma. Echocardiographic examination is the first choice but computed tomography, magnetic resonance imaging or histopathological examination may be required for differential diagnosis. Surgical treatment has been proven the best treatment for cardiac hydatid cyst. Although the recurrence of cardiac hydatid cysts after surgical resection is very rare, cysts may recur despite medical treatment after surgical resection.

Case report

A 7-year-old girl living in poor hygienic conditions was referred to our hospital with hemiparesis and speech disturbances. On examination, her blood pressure was 110/85 mmHg and heart rate was 99/bpm. Cardiovascular and respiratory system examinations revealed no abnormality. Laboratory tests results were within normal limits, except for eosinophilia. In the serological examination, the Weinberg test was positive. The 12-lead electrocardiogram showed a sinus rhythm without significant abnormalities Chest radiography and abdominal ultrasonography were normal. Echocardiography revealed a 29x21 mm, mobile, homogenous and hyperechogenic mass suggesting myxoma with its stalk adhered to myocardium in the left ventricle, under the anterior leaflet of the mitral valve, without signs of obstruction (Fig. 1. Video 1, 2. See corresponding video/movie images at www.anakarder.com). Brain magnetic resonance imaging showed a single cystic lesion in the right occipital and left parietooccipital regions of the brain. She was first operated on for cerebral hydatid cyst, and underwent cardiac surgery 20 days later. Left atriotomy was performed with an incision posterior to interatrial groove. Anterior leaflet of mitral valve was ecarted and the mass was totally resected. Histopathological examination of the cyst wall revealed characteristic findings of hydatid cyst (homogenous eosinophilic stained wall with scolices) in both cerebral and cardiac surgery specimens (Fig. 2). Prior to cerebral surgery, mebendazole was started for hydatid disease and it was continued for two years after the surgery.

An echocardiographic examination four months after the cardiac operation showed the reappearance of a hyperechogenic mass 10x10 mm under the mitral valve, slightly lateral to the previous localization (Fig. 3. Video 3. See corresponding video/movie images at www.anakarder.com). The patient was diagnosed with early recurrence of cardiac hydatid cyst and reoperation was advised, but her parents refused cardiac reoperation and the mebendazole treatment was continued. Periodical echocardiographic examinations at six-month intervals showed constant cyst size. No new cysts occurred at any localization during the three-year follow up period. At the last echocardiographic examination three years after the operation, the cyst had reached 21x11 mm in size.

Discussion

Cardiac hydatid cyst is uncommon complication of hydatid disease. Because contractions of the heart provide a natural resistance to the presence of viable hydatid cysts, primary echinococcosis of the heart is rare (5). Diagnosis of cardiac hydatid cyst is easy with typical cystic appearance in echocardiography;

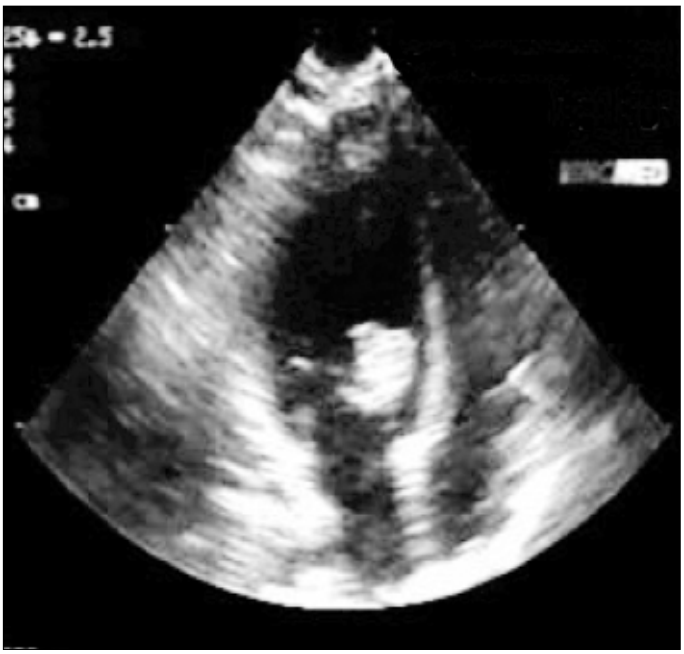

Figure 1. Transthoracic echocardiography shows a homogeneous and hyperechogenic mass in the left ventricle (mimicking myxoma), under the anterior leaflet of the mitral valve, without signs of obstruction

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however, it may rarely be difficult to distinguish it from myxoma (2-4). Rarely some authors have reported cardiac hydatid cyst simulating myxoma but all of them were in atrial localizations (3, 5). Our case was distinct from those previously published cases with regard to its ventricular localization. Although cerebral hydatid cyst could be diagnosed by histopathological examination before cardiac surgery, we could not clearly distinguish between myxoma and hydatid cyst since the echocardiographic appearance of the mass in our case had homogeneous, well rounded hyperechogenic characteristic properties similar to those of myxoma. Myxoma is the most frequent benign cardiac tumor. It usually is pedunculated and sometimes calcified. Most of myxomas are solid masses and multicavitated myxomas can simulate hydatid cysts (6). The polycystic appearance of the mass is more frequently observed in hydatid cysts than in cardiac myxomas. Echocardiographic examination is the first choice, but computed tomography, magnetic resonance imaging or histopathological examination may also be required for differential diagnosis (6).

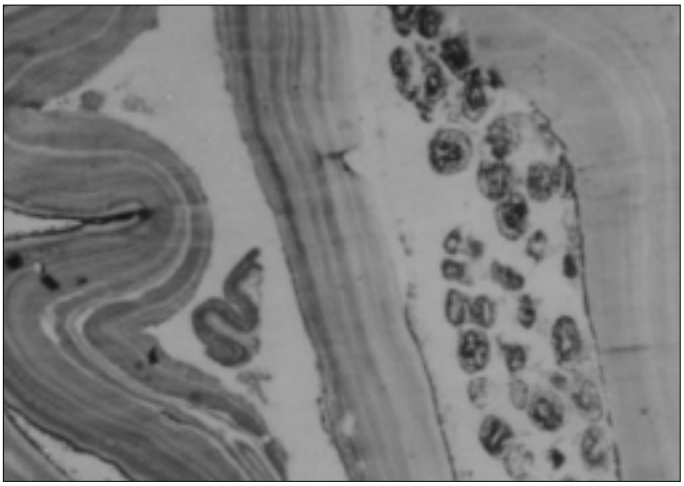

Figure 2. Histopathological examination shows homogeneous eosinophilic stained wall and scolices

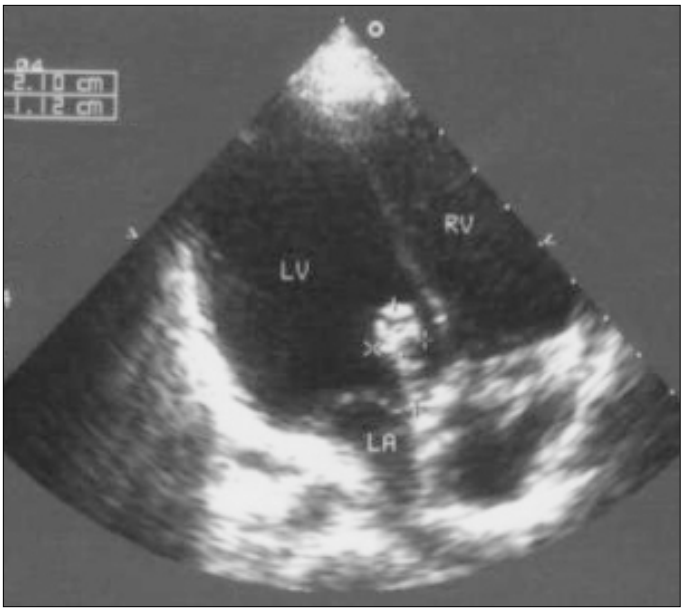

Figure 3. Transthoracic echocardiography three years after the operation. A hyperechogenic recurrent mass is seen in the previous localization

Cardiac hydatid cysts can cause life-threatening complications such as cerebral embolism, cardiac failure, and cyst rupture, and thus the establishment of an early diagnosis and the performance of a timely, potentially curative, surgical intervention are of paramount importance (7). Surgery has been proven the best treatment for hydatid cyst of the heart.

Recurrence of cardiac hydatid cyst after surgical resection is rare. The recurrence is caused by a small residual cyst, or reinfestation. A recently published meta-analysis in Turkey, evaluating the 5-year post-operation follow-up of 50 patients, showed one recurrence within 3 months of surgery despite medical therapy with albendazole (8). Information is limited in the literature on the medical treatment of cardiac hydatid disease. Mebendazole and albendazole are the drugs of choice in medical therapy. The optimal dosage regimen of albendazole in the treatment of echinococcosis is yet to be assessed. Disappearance of cysts and calcification of cysts should be the ultimate goal of treatment, as are the most reliable criteria of cure. The conventional dosage regimen recommended is 28 days of 10-12 mg/kg as a cycle for 3-4 cycles with a 2-week interval between cycles. The duration of albendazole therapy should be varied with the location and pattern of cystic lesions. (9)

Response to this therapy is apparently related to the thickness of the cyst wall, which the drug must penetrate to reach the germinal layer. In recent years, albendazole has been used in Turkey commonly for 4 to 8 weeks before and after surgery to reduce the risk of metastatic spread during the operation (7).

Conclusion

In conclusion, hydatid cyst must always be kept in mind when an intracardiac mass is detected, especially in developing countries. The cardiac hydatid cyst may recur despite medical treatment after surgical resection.

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