Paracardiac Hydatid Cyst: Case Report

Bir Parakardiyak Hidatik Kist Olgusu

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ABSTRACT A patient who has been treated with albendazole for the last 6 months for hepatic hydatid cyst underwent transthoracic echocardiography up on his cardiac symptoms and the results revealed a paracardiac cystic mass with well defined contours, next to the left ventricle. Surgical excision of the mass was suggested with estimated diagnosis of paracardiac hydatid cyst. A median sternotomy was accomplished under general anesthesia. Peroperative diagnosis was consistent with preoperative diagnosis of paracardiac cystic lesion attached to the left aspect of the heart. The external cyst wall was separated from pericardium. Then the cyst wall is cut by the scalpel followed by scissors. To provide an adequate evacuation vacuum suction was used. The incision was elongated by scissors while removing the daughter cysts one by one using forceps and the residual cavity was irrigated. Excised cysts were collected for histopathologic examinations.

Key Words: Echinococcosis; mediastinal cyst

ÖZET Hepatik hidatik kist tanısı ile 6 aydır albendazol tedavisi alan hastada kardiyak şikayetleri üzerine yapılan transtorasik ekokardiyografide, sol ventriküle komşu düzgün kontürlü parakardiyak kistik kitle tespit edildi. Yapılan tetkikler sonucunda parakardiyak hidatik kist tanısı kondu ve operasyon önerildi. Genel anestezi altında hastaya median sternotomi uygulandı. Kalbin sol yanına komşu olduğu görülen parakardiyak kistik lezyon ameliyat öncesi düşünülen tanı ile uyumluydu. Eksternal kist perikardiyumdan ayırıldı ve duvarı bistüri ardından makas kullanılarak açıldı. Etkin olarak kisti boşaltmak amacıyla hidatik kistin içi aspirator ile aspire edildi. Kız kistler tek tek penset yardımıyla çıkarıldı ve kistin içi yıkandı. Çıkarılan kistler histopatolojik tanı amacıyla patolojiye gönderildi.

Anahtar Kelimeler: Ekinokok; mediastinal kist

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Echinococcosis hydatid cyst is a parasitic infection that is still a common worldwide health problem, especially after increased population circulation from cattle breeding regions where no effective veterinary control exists. The definitive host of Echinococcus granulosus is the dog. Ova exist in dog feces contaminated grass and water ingested by the intermediate host, usually sheep. The life cycle is completed when the organs of sheep or other intermediate hosts were eaten by dogs. Human infestation usually occurs as a result of contamination from the dog. It is rarely fatal unless found in atypical uncommon locations like in the mediastinum.[1,2]

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In this case report, we present a patient that has been operated for a paracardiac hydatid cyst in the mediastinum.

CASE REPORT

A 47-years-old man was referred to our department with the diagnosis of paracardiac hydatid cyst and with the complaints of intermittent episodes of exertional dyspnea, palpitation and fatigue that had started one month ago. He has been receiving treatment of albendazole for the last 6 months for hepatic hydatid cyst and paracardiac hydatid cyst was recent diagnosis. In his detailed medical history he had been hunting regularly and did not reveal any previous cardiac symptoms nor risk factors for coronary artery disease. Blood biochemistry parameters and other laboratory tests were all in normal limits, except of complete blood count tests demonstrated marked eosinophilia.

Transthoracic echocardiography was repeated in our department and revealed a 5.0- × 6.0 cm round paracardiac cystic mass with well defined contours, next to the left ventricle. Cyst was seen to have a regular membrane that had no communication between the mass and the cardiac chambers or extrinsic structures. Subsequently, the serologic tests for hydatidosis (indirect hemagglutination tests) were performed. The diagnosis of hydatid cyst was confirmed by a positive hemagglutination titer of 1:460 (normal 1:100) for echinococcus antibodies. Following the diagnosis, we recommended surgical resection for therapeutic purpose and histopathologic diagnosis. An informed consent was signed by the patient.

A median sternotomy was accomplished under general anesthesia. Peroperative diagnosis was consistent with preoperative diagnosis. The paracardiac cystic lesion was identified and was observed to be encapsulated by well-formed pericardium and to be attached to the left aspect of the heart. The left pleural space was dissected with electrocautery. Before opening the cyst, surrounding area were wrapped with compression gauze to prevent contamination of the surrounding areas. The external cyst wall was separated from pericardium. Then the cyst wall is cut by the scalpel followed by scissors. To provide an adequate evacuation of liquid and chitin membrane fragments vacuum suction was used. The incision was elongated by scissors while removing the daughter cysts one by one using forceps (Figure 1). Then the residual cavity was irrigated with a hypertonic saline solution for germicide effect (Figure 2). For this purpose we used 3% NaCl water solution. Cystic cavities were obliterated by imbricating sutures with using the same suture material to perform capitonage. Excised doughter cysts were collected for histopathologic examinations (Figure 3). Histopathologic analysis of the material confirmed the diagnosis of echinococcosis: a germinative membrane and necrotic matter containing parasitic membrane residues were consistent with hydatid cyst. The patient discharged on postoperative day 6 without any complications. Albendazole

FIGURE 1: Removing the daughter cysts using forceps.

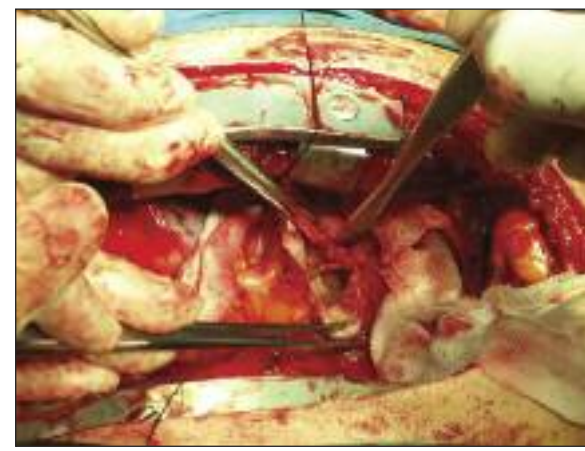

FIGURE 2: The residual cavity.

FIGURE 3: Excised cysts.

pills (400 mg/kg day) twice a day was prescribed for postoperative 6 months.

DISCUSSION

Paracardiac hydatid cyst is a rare but potentially fatal pathology that may mimic signs of congestive heart failure when the cysts grow to a large size to collapse the heart. The combination of serologic tests, echocardiography and computed tomographic findings enables us to diagnose the pericardial hydatid cyst precisely however establishing an early diagnosis is difficult because the latent phase between infection and presentation of the disease is long and symptoms may be nonspecific. Rupture of the cyst into the pericardial space results in chest pain due to pericarditis and occasionally circulatory collapse due to an anaphylactic reaction to the antigenic properties of the cystic fluid.[3,4] Although mediastinal hydatidosis has not been recognized as an emergency state, for this reason priority on the operation list should be given to patients with an intact hydatid cyst.

Eccinococcus hydatid cyst results from ingestion of parasite eggs in the food contaminated with feces of infected domestic animals. They develop into larvaes that penetrate the human intestinal wall, and enter the bloodstream. Larvaes travels through the bloodstream and forms cystic lesions in one or more organs. Cysts usually affect the liver and lung but any organ such as brain, thyroid, retroperitoneum, mediastinum, heart and rarely the pericardial involvement can be seen as in our patient. Each hydatid cyst typically consists of a germinative capsule containing of fluid and a variable number of secondary or daughter cysts. Echocardiography is a relatively simple and very reliable method to diagnose echinococcosis.[4]

Prompt surgery should be performed when echinoccocus in the mediastinum is diagnosed. Medical treatment may be considered if surgery is contraindicated or refused by the patient.[5] The World Health Organization guidelines accept surgical resection as the primary treatment for hydatid cyst, followed by medical therapy for a minimum of 2 years.[2] Although the gold standard for therapy is radical removal of the germinative capsule and the content, in cases of mediastinal echinococcosis, excision of the cyst is limited due to concern about the damage of the heart structures and hemorrhage. Chemotherapy in the postoperative period decreases recurrence of the disease in the majority of patients and it is necessary for the eradication of small cysts that were not diagnosed prior to surgical operation.[6] The recurrence is caused by a small residual cyst, or reinfestation. Akar et al showed that recurrence of cardiac hydatid cyst after surgical resection is rare. In their meta-analysis, evaluating the 5-year post-operation follow-up of 50 patients, showed one recurrence within 3 months of surgery under medical therapy with albendazole.[7]

Medical treatment has been suggested as an alternative treatment,[8] however it should be kept in mind that chemotherapy is not recommended before surgery. Chemotherapy may lead to cyst death, destruction of its wall and resulting in cyst rupture. Therefore, no germicide must be administered before surgery of mediastinal cyst. In our case the patient was receiving medication for liver hydatid cyst for 6 months. He had no symptoms of paracardiac hydatid cyst when he received the diagnosis of liver disease. Paracardiac hydatid cyst was diagnosed after 6 months of liver hydatid cyst diagnose, while he was under albendazole treatment.

If there is evidence of cysts in organs such as the liver and lung, investigation for systemic cysts should be also performed before planning the appropriate therapy.

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