

A Case Of Cardiac Echinococcosis

Dr. M. Kamuran ERK, Dr. H. Tahsin KEÇELİGİL,
Dr. Feriştat KOLBAKIR, Dr. Bedri KANDEMİR, Dr. Mahmut YILMAN
O.M.Ü. Tıp Fakültesi, Göğüs, Kalp ve Damar Cerrahisi ve Patoloji Anabilim Dalları

- ✓ 37 yaşında bir erkek hasta, göğüs ağrısı ve elektrokardiyografisinde (EKG) inferior iske-miye ilişkin değişiklikler ile hastaneye başvurdu. Kardiyak kist hidatik tanısı konulan hasta kardiyopulmoner bypas kullanılarak ameliyat edildi. Kistin çıkarılmasının ardından, kist üzerindeki incelmış myokard rezeke edildi ve kavite bir ventrikül anevrizmasında olduğu şekilde kapatıldı. Eksize edilen myokardın histopatolojik incelemesinde myofibril bantları arasında bir ekinokok skoleksi görüldü. Hasta, halen ameliyattan bir yıl sonra, iyi durumda yaşamını sürdürmektedir.

Anahtar Kelimeler: Kardiyak ekinokok, hidatik kist.

- ✓ A 37-year old man with chest pain and electrocardiographic inferior ischemic changes was admitted to the hospital. Cardiac echinococcosis was diagnosed and he was operated under cardiopulmonary bypass. After enucleation of cyst, the thin myocardium over the cyst was removed and cavity was closed like a ventricular aneurysm. On histopathological examination of excised myocardium an echinococcal scolex was seen in between myofibril bands. The patient has been going during the past one year of follow-up.

Key words: Cardiac echinococcosis, hydatid cyst.

Echinococcosis is an endemic disease in Asia, Africa, South America and Mediterranean Countries. Hydatid cyst of the heart is an uncommon lesion, with the incidence ranging from 0.02% to 2% of all human hydatidosis(1,2,3,4,5).

CASE REPORT

A 37-years old man, was admitted with a two-month history of epigastric discomfort and chest pain that sometimes extended to left arm. There was electrocardiographic evidence of inferior ischemia. A chest roentgenogram revealed normal lungs and a cardiothoracic ratio within normal limits with a bulge on the left border of the heart (Fig. 1). The abnormal laboratory findings were as follows: Eosinophils of 12% and a positive Casoni's skin test. Two-dimensional echocardiogram showed the presence of a cystic lesion in the wall of the left ventricle that moved with each contrac-

tion towards to the left ventricular cavity (Fig. 2). The left ventriculogram showed a thick myocardial mass with a filling defect in the anterolateral wall of the left ventricle. Coronary angiography showed slightly anterior displacement of the left anterior descending branch of the left coronary artery, with no obstruction present. The Computerize Tomography (CT-scan) showed a hypodence bulge of the cardiac apex measuring 3.4x3.8 cm with a mean CT-density of 10 HU (Fig. 3).

The patient was operated with the technique of cardiopulmonary bypass. The cyst was removed from the anteroapical wall of the left ventricle. After washing the cavity with hypertonic saline solution, the thin and denaturated myocardium over the cyst was excised. The cavity was closed in the same manner as ventricular aneurysm. After an uncomplicated postoperative period, the patient was discharged on the

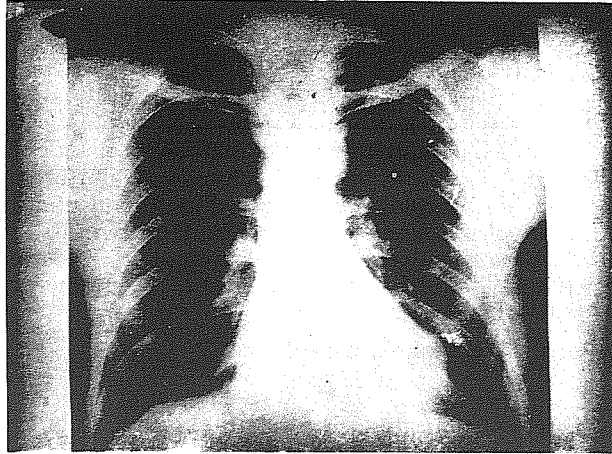


Figure-1: Bulge on the left border of the heart.

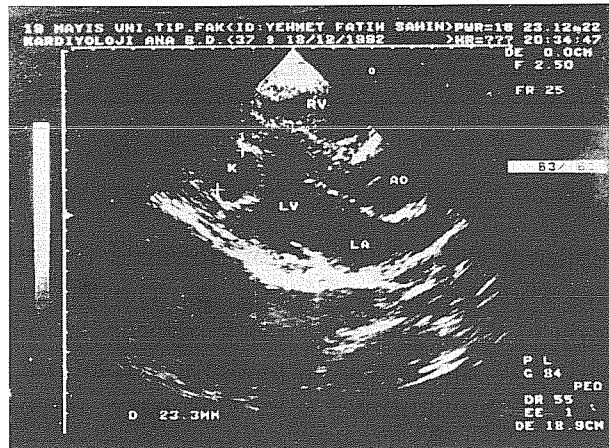


Figure-2: Two-dimensional echocardiography: An oval mass involving the ventricular wall.

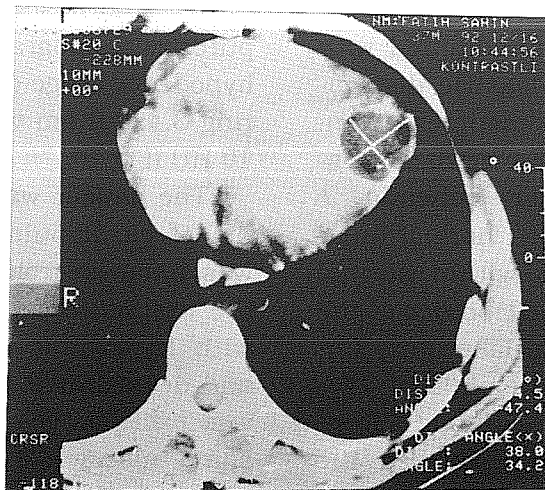


Figure-3: CT-image of the heart showing hypodense apical bulge.

tenth day. An echinococcal scolex was seen in microscopic section of the excised myocardium (Fig. 4,5,6). Mebendazole 3000 mg/ per day was given to the patient for 10 months. The patient has no problem for 1 year postoperatively.

DISCUSSION

Once the eggs of echinococcus enter to the gastrointestinal tract, the liberated embryo penetrates the intestinal wall, passes into the lymphatics or mesenteric veins and is carried by the bloodstream to va-

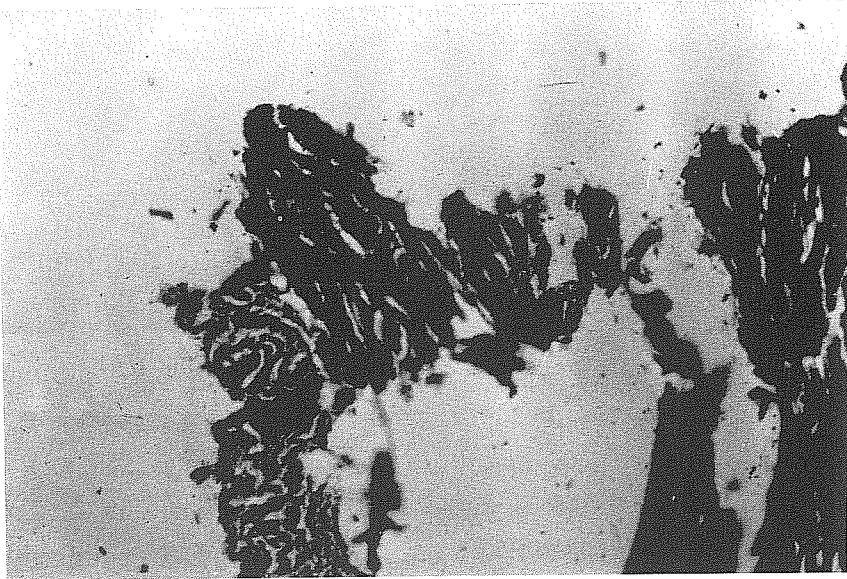


Figure-4: A scolex is seen among the hypertrophic and denatured myocardial fibers (Magnification is a hundred times)

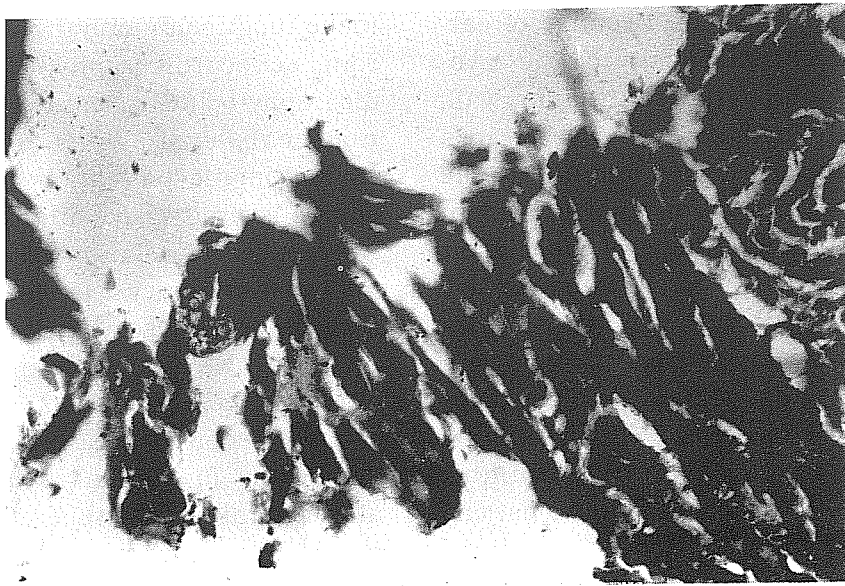


Figure-5: A scolex is seen in the myocardial fibers (Magnification is two hundred times)



Figure-6: A scolex is seen in the myocardial fibers (Magnification is four hundred times).

rious parts of the body. If not destroyed by phagocytic cells, it loses its hooklets, undergoes central vesiculation, and becomes a cyst of about 10 mm in diameter in 5 months⁽⁶⁾.

The symptoms of the hydatid cyst comparable to those of a slowly growing tumor, depend upon the location. Because of cardiac constriction and density of the myocardium, particularly the ventricular wall, the growth of the hydatid cyst is sometimes restrained⁽¹⁾. Parasite is carried to the myocardium via the coronary circulation. Left ventricular involvement is more than the other parts of the heart because left ventricular coronary artery supply is richer⁽⁷⁾. Cyst rarely localizes in the ventricular septum⁽⁸⁻¹¹⁾. Mass of the cyst may compress to the coronary vessel with resultant myocardial ischemia. Coronary studies should be done in the symptomatic patient or when abnormalities of the electrocardiogram are present. Disturbances of the conduction mechanism of the heart, mechani-

cal interference with the atrioventricular valve and ventricular function and obstruction of the ventricular outflow tract were reported on the subject of cyst^(8,9,12-15). Rupture with anaphylactic shock may occur. Pulmonary embolisation is not rare⁽¹⁶⁾, and is frequently fatal^(10,13,16). The diagnosis is made most commonly by chest roentgenogram, echocardiography, CT and angiocardiology^(1,7). Surgical excision of the echinococcal cyst is indicated in the asymptomatic patient, because its natural course is progressive and dangerous. Generally, after enucleation of cyst, denatured muscle over the cyst is resected. The remaining space is closed like a ventricular aneurysm with a teflon felt support. Recurrence of cardiac echinococcosis is rare^(10,13). Papo et al⁽¹³⁾ reported a case of recurrence after apparently favorable treatment four years after operation. Postoperatively echinococcal scolices may be remained in myocardium and probably causes recurrence. Considering this situation, mebendazole,

flubendazole or albendazole should be given to every patient during the postoperative period for 10 to 12 months⁽¹⁾. During the follow-up, echocardiographic controls are advisable to detect recurrence or other complications.

CONCLUSIONS

Cardiopulmonary bypass has become a simple, safe approach to the surgical excision of hydatid cysts of the heart. It is remarkable that echinococcal scolices may be remained in myocardium and probably causes recurrence after successful surgical intervention.

Geliş Tarihi: 08.12.1994

Yayına Kabul Tarihi: 06.03.1995

REFERENCES

1. Ameli M, Mobarhan HE and Nouraii SS: Surgical treatment of hydatid cysts of the heart: Report of six cases. *J Thorac Cardiovasc Surg.* 98: 892-901, 1989.
2. Ben-Musa AA, Singh H, Shembesh AH, Chugh JC: Cardiac hydatid cyst in a child. *Pediatr* 29: 409-411, 1980.
3. Dighiero J, Canahal EJ, Hazan J, Horlales JO: Echinococcus disease of the heart. *Circulation* 17: 128-132, 1958.
4. Halliday JN, Jose R, Nicks R: Constrictive pericarditis following rupture of a ventricular hydatid cyst. *Br. Heart J* 25: 821-823, 1983.
5. Heyat J, Makhtari H, Hajaliloo J, and Shakibi JG: Surgical treatment of echinococcal cyst of the heart. *Thorac Cardiovasc Surg* 61: 755-764, 1971.
6. Brown HW, Neva FA: Extra intestinal larval tapeworm for human beings. In *basic clinical parasitology*. Appleton-Century-Crofts, Norwalk, Connecticut 1983 pp 191-203.
7. Aytaç A, Türkoğlu H, Paker T, et al: Kardiyak Hidatik Kist Hastalığı ve Cerrahi Tedavisi: 6 şahsi vak'aya dayanan derleme. *Türk Kardiyo. Dern. Arş.* 19: 340-344, 1991.
8. De Los Arcos E, Madurga MP, Leon JP: Hydatid cyst of interventricular septum causing left anterior hemiblock. *Br. Heart J.* 33: 623-625, 1971.
9. Gula G, Luisi VS, Machado F, Yacoub M: Hydatid cyst of the heart. *Thorac Cardiovasc Surg* 27: 393-396, 1979.
10. Papa J, Ginsberg E, Albrecht M, Martynovic N, Sokoli J: Surgical treatment of cardiac echinococcosis: Report of nine cases. *Texas Heart Inst J* 9: 3-9, 1982.
11. Papagna D, Aloe MA, Spagnolo S: Cardiopulmonary echinococcosis. A report of a clinical case. *Ital Cardiol* 21: 1129-1133, 1991.
12. Gavrilescu S, Gavrilescu M, Streian C, Luca C: Complete atrioventricular block due to cardiac echinococcosis. *Cardiology* 64: 215-218, 1979.
13. Di Bello R, Urioste AH, Rubio R: Hydatid cyst of the ventricular septum of the heart. A study based on two personal cases and forty-one observations in the literature. *Am J Cardiol* 14: 237-241, 1964.
14. Rossouw GJ, Kuot-Craig CJ, and Erasmus PE: Cardiac echinococcosis: Cyst removal in a beating heart. *Ann Thorac Surg* 53: 328-329, 1992.
15. Yekeler İ, Koçak H, Aydın NE, et al: A case of cardiac hydatid cyst localized in the lungs bilaterally and on anterior wall of right ventricle. *Thorac Cardiovasc Surgeon* 41: 1-3, 1993.
16. Purriel R, Tomaline D, Muras O, Acosta Ferreira W: Embolismo pulmonar hidático. *Thorax* 19: 164-182, 1970.

