Incidentally Diagnosed Intramyocardially Located Hydatid Cyst with Muscular Bridge: Case Report

Tesadüfen Tanı Konan İntramiyokardiyal Yerleşimli Kas Bantlı Hidatik Kist

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ABSTRACT Hydatid disease is caused by *Echinococcus granulosus* and is endemic in many parts of the world. This parasitic tapeworm can produce cysts in almost every organ of the body, with the liver and lung being the most frequently targeted organs. However, the cyst tends to appear in different and sometimes unusual body sites in various geographical areas of the world. In this paper we reported a case of hydatid cyst that was incidentally diagnosed in the operation who underwent coronary artery bypass grafting surgery due to muscular bridge of the left anterior descending artery.

Key Words: Echinococcosis; coronary artery bypass

ÖZET *Echinococcus granulosus*'un neden olduğu kist hidatik dünyanın pek çok bölgesinde endemiktir. Bu parazit vücudun hemen hemen tüm organlarında kistik lezyonlara sebep olabilirken, akciğerler ve karaciğer en sık tutulan organlardır. Ancak kist endemik olduğu bazı coğrafik bölgelerde vücudun değişik bölgelerinde de görülebilir. Bu yazıda miyokardiyal kas bandı nedeni ile sol ön inen koroner arterine müdahale etmek için operasyona alınan hastada cerrahi sırasında tesadüfen tanı konulan kist hidatik vakasını sunduk.

Anahtar Kelimeler: Ekinokokkozis; koroner arter baypas

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Hydatid disease is caused by *Echinococcus granulosus* and is endemic in many parts of the world. Hydatid disease is caused by the parasite *Echinococcus granulosus* with an extremely rare cardiac involvement which can be observed only in 2% of all cases.[1] Emergent surgery is the treatment of choice for intramyocardial located hydatid cyst due to severe complication risks such as cyst rupture to the heart chambers or pericardial space which may lead to a sudden death.[1-3] Therefore, early and correct diagnosis of the disease presents a significant importance especially in the areas where the disease is endemic. We report a case of cardiac cyst hydatic that was incidentally diagnosed during coronary artery bypass surgery.

CASE REPORT

A 58 years old male patient administered to the cardiology department with the complaints of angina pectoris which was worsened in the last year. Patient was scheduled for coronary artery bypass grafting operation due to

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muscular bridge at the localization of mid portion of the left anterior descending artery (LAD) and 80% luminally stenosis that was diagnosed with coronary angiography (Figure 1). We observed minimally mitral and aortic valvular insufficiency with transthoracic echocardiography. Ejection fraction was found 40%. No signs of cyst was observed by echocardiography. Patient underwent surgery with these preoperative findings.

OPERATION

After median sternotomy, left internal mammarian artery (LIMA) harvesting was completed. After pericardiotomy a 7x3 cm solid mass lesion at the left anterior ventricular wall was observed. Aortic and bicaval cannulation were performed and cardiopulmonary bypass was initiated. After cross clamping the aorta diastolic arrest was achieved by antegrade cristalloid cardioplegia. Our initial diagnosis was an intramyocardial hydatid cyst. Thus iodine-soaked sponges (polyvinylpyrolidone iodide 10%, Batticon, Adeka) were placed around the mass lesion in order to prevent possible seeding from cystic rupture. After aspirating the ingredient, we injected 15 cc of 3% hypertonic solution in the mass lesion. We performed a vertical incision through the mass, which contained membranes and daughter vesicles, that was removed and we washed the opened cyst with polyvinylpyrolidone iodide again. Remaining pouch was repaired with by a running 3/0 poly-propylene suture (Figure 2). LIMA to LAD anastomosis was performed and weaning from cardiopulmonary bypass was performed troublelessly.

POSTOPERATIVE MANAGEMENT

A diagnosis of hydatid cyst was reported by histopathological investigation of the mass lesion. Thus, we administered albendazole with the doses of 800 mg/per day. The patient was discharged uneventfully at the seventh postoperative day.

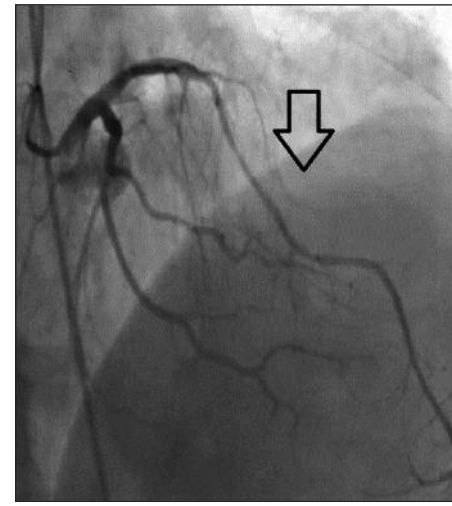

FIGURE 1: Muscular bridge can be seen on coronary angiography image.

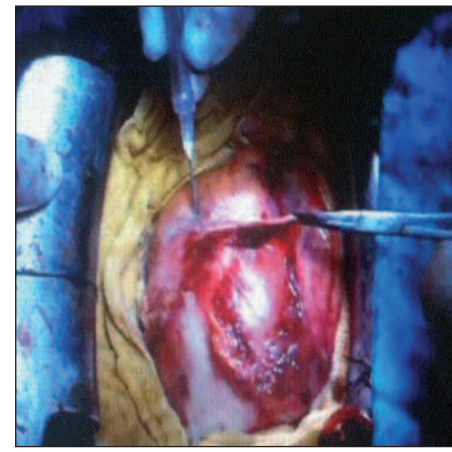

FIGURE 2: Intraoperative view: Iodine soaked sponges were placed around the cyst.

DISCUSSION

Cardiac hydatid cyst is a rare condition, accounting for only 0.5-2% of all hydatid infestations.[4] Left ventricle is the most frequent site involved in cardiac ecchinococcosis with an incidence of 55-60%. The most frequently observed localizations are free wall of the left ventricle and interventricular septum.[2]

There is no specific clinical presentation of hydatid cyst patients. The determinants of the clinical presentation are the age, the size and the localisation of the cyst.[5] The common symptoms are angina pectoris, dyspnea and palpitation and these are due to compression of the cyst on coronary arteries or conduction system.[3]

Only half of the patients serologic tests are positive whereas better results can be obtained with ELISA method. Cardiac cysts and its engen-

dered pathologies can be assessed with echocardiographic examination.[1,8] Transeusophageal echocardiography (TEE) can enlighten more detailed data about the cyst.[7]

In this particular case the main syptom was chest pain. Muscular bridge is determined on coronary angiography whereas there were no signs of cardiac cyst on echocardiography. The patient was scheduled for coronary artery bypass grafting operation so the mass was detected during the operation. Surgical resection and postoperative antiparasitic drugs was the choice of the treatment as prior reports.[1,5]

Surgical excision is the preferred treatment in cardiac hydatid cyst cases. We recommend excising the cyst by using cardiopulmonary bypass. Either aortic cross-clamping or both aortic and pulmonic cross-clamping can be used to prevent dissemination of the parasite.[9] The contents of the cyst must be entirely aspirated and the germinative membrane should be totally removed.[10]

Cardiac hydatid cyst is a serious pathology that can lead minatory complications. It affects on relatively young population. The clinical presentation is variable and nonspecific. The diagnosis is suspected by imaging studies and confirmed by histological study. As seen in this case when cystic pathologies encountered during surgery, *Echinococcus granulosus* enfestation should be kept in mind especially in the endemic regions of the world.

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