Simultaneous heart, lung, and breast hydatid cysts operated in a single session

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ABSTRACT
The multivisceral location of the cardiac hydatid cyst is exceptional. A 37-year-old female, who was operated on two years ago for hydatid cysts of the right lung, was asymptomatic. A CT scan defined cystic masses of the heart, the left lung, and the liver, as well as cysts in the two breasts. Thus, the patient was given a cardiopulmonary bypass via a sternotomy. The intra-operative examination revealed a cyst of the inferior wall of the left ventricle. All of the cysts were excised in a single session, and the patient was discharged on the fourth postoperative day without symptoms.

Keywords: echinococcosis, cardiac mass, multivisceral location, surgery.

1. INTRODUCTION
Hydatid cysts of the heart are rare and the prevalence of cardiac hydatidosis is less than 2% of all human body infestations [1, 2]. They can be a serious and a life-threatening problem. Predominantly registered locations include the left ventricle (75%), followed by the right ventricle (18%) and the interventricular septum (7%) [3]. Likewise, multi-visceral hydatidosis is an exceptional condition.

We present the case of a 37-year-old woman who had a previous history of surgery of echinococcosis of the right lung, and who underwent a successful surgery for multiple hydatidosis of the left ventricle, the left lung, and the two breasts at the same time.

2. CASE REPORT
We report a case of a 37-year-old woman with a past history of surgical removal of four hydatid cysts of the right lung. Following surgery, she received antihelminthic treatment with albendazole for two years until a Computerized Tomographic (CT) scan of the thorax and abdomen revealed well-defined cystic lesions in the left atrium [figure 1], the left lung, the liver, and the two breasts. Thus, surgery was planned.

Preoperative trans-thoracic echocardiography defined a cystic mass lesion of 50 x 40 mm originating from the apex of the heart and protruding into the pericardium. The coronary angiography was normal. The patient underwent surgery via a sternotomy.

Figure 1. CT scan showing a cystic mass in the left atrium (arrow).

Figure 2. Operative view of the left ventricular cyst protruding into the pericardium (arrow).
and under cardiopulmonary bypass between the ascending aorta and the two vena cava. The intraoperative examination revealed that this cyst originated from the inferior wall of the left ventricle [figure 2]. Hypertonic solution was introduced into the cystic sac. The cystic content was then carefully aspirated, draining the viscous fluid. Then, a cystectomy was performed and the remaining cyst contents and germinative membrane was removed. The cystic cavity was large [figure 3] and was closed using a direct suture. After decannulation, the cysts of the left lung and the two breasts were removed [figure 4]. The postoperative period was uneventful, and the patient was discharged from the hospital on the fourth postoperative day without any complication. The patient was treated with albendazole to prevent recurrence.

3. DISCUSSION
Hydatid disease is a parasitic infestation caused by Echinococcus granulosus, which uses the dog as a definitive host. Humans are the accidental intermediate host in the life cycle of the parasite and can be affected through handling of infected dogs or by ingestion of water or food contaminated with parasite eggs [4]. The liver (70%) and lungs (25%) are the most frequently affected organs. The cardiac location is rare. The most frequently affected sites of the heart are the left (75%) and the right ventricles (18%), and the interventricular septum, whereas the pericardium, left and right atria are the least often affected [5]. Most of the cases have large and often asymptomatic cysts in the heart [4, 6]. The diagnosis of cardiac cyst hydatid may be difficult due to the nonspecific symptoms and varying clinical presentations. It can, however, be confirmed using non-invasive investigations, particularly echocardiography.

The cardiac and lung hydatid cyst one-stage operation has a lot of advantages. The patient is operated on just once, rather than undergoing multiple surgeries. As a result, deterioration of the patient’s general condition during the period between the operations is avoided and the period of rehabilitation, as well as the treatment costs, is considerably reduced.

The median sternotomy is suitable for this surgery. This involves the least amount of postoperative chest pain, and avoids deterioration of the respiratory function. In addition, it also decreases the length of the hospital stay [7].

4. CONCLUSION
Multi-organ involvement is common with cardiac echinococcosis, thus the reported prevalence of cardiac hydatidosis would be higher if cardiac structures were routinely studied in patients with multiple hydatid cyst disease [8]. Due to the fatal consequences of the above-mentioned serious complications, surgical excision is the treatment of choice. One stage surgery in patients who have cardiac and lung hydatid cysts using cardiopulmonary bypass by median sternotomy is safe and satisfactory.

REFERENCES