

## Surgery of Cardiac and Multi-Organ Hydatidosis Involvement: Case Report and Review of the Literature

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### Abstract

Multivisceral location of cardiac hydatid cyst is exceptional. A 37 year-old female, with past medical history of surgery of hydatid cyst of the right lung, underwent a systematic radiological follow-up.

CT scan defined a cystic mass of the heart, of the left lung, the liver, and cysts in the two breasts. So, the patient was operated under cardiopulmonary bypass via a sternotomy.

Intra-operative examination revealed a cyst of the inferior wall of the left ventricle.

The cysts of the heart, the lung, and the breasts were excised in a single session, and the patient was discharged on the fourth postoperative day without symptoms. The cyst of the liver was operated one month later.

**Keywords:** Echinococcosis; Cardiac mass; Multivisceral location; Surgery

### Introduction

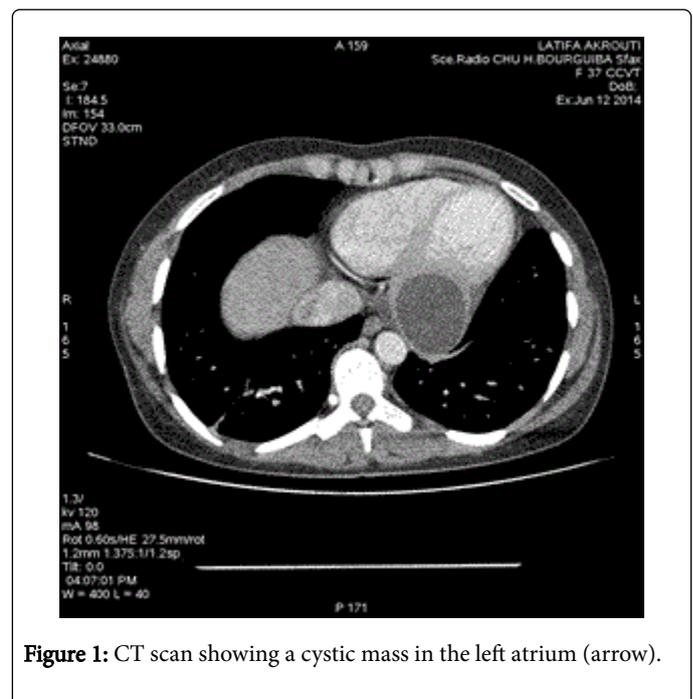
The prevalence of cardiac hydatidosis is less than 2% of all human body infestations [1,2].

Predominantly registered locations are the left ventricle, followed by the right ventricle and the interventricular septum [3]. Multi-visceral hydatidosis is exceptional.

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

### Case Report

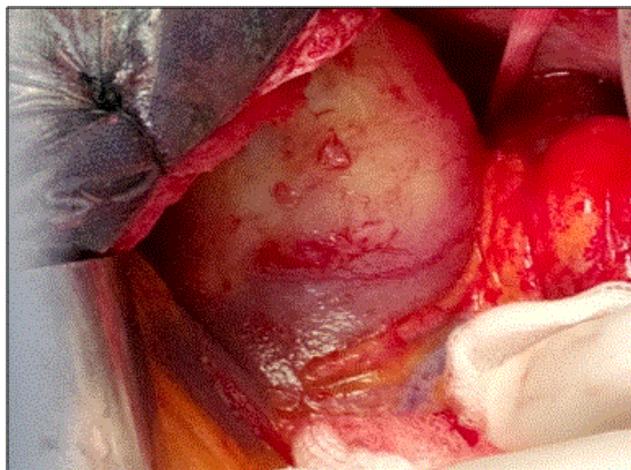
We report a 37 year-old woman who had past history of surgical removal of four hydatid cysts of the right lung. Following surgery, she had been on antihelminthic treatment with albendazole for two years until Computerized Tomographic scan revealed well defined cystic lesions in the left atrium (Figure 1), the left lung, the liver, and the two breasts. So, surgery was planned.



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

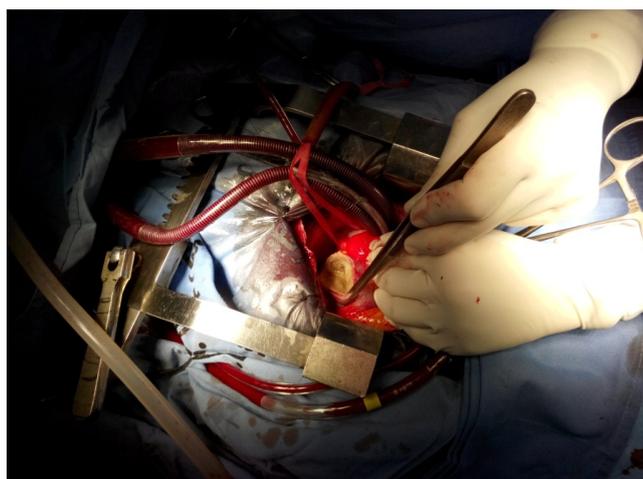
Preoperative trans-thoracic echocardiography defined a cystic lesion of 50 \* 40 mm originating from the apex of the heart and protruding into the pericardium. Coronary angiography was normal.

The patient underwent a surgery via a sternotomy, and under cardiopulmonary bypass between the ascending aorta and the two vena cava. Intraoperative examination revealed that this cyst was originating from the inferior wall of the left ventricle (Figure 2).



**Figure 2:** Operative view of the left ventricular cyst protruding into the pericardium (arrow).

Hypertonic solution was introduced into the cystic sac. Cystic content was aspirated draining the viscous fluid. Then, cystectomy was performed and the remaining cyst contents were removed. The cystic cavity was closed by a direct suture (Figure 3). 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. Liver cysts were removed one month later. She was treated with albendazole during 6 months to prevent recurrence.



**Figure 3:** Operative view of the cystic cavity (arrow).

## Discussion

Hydatid disease is a parasitic infestation caused by *Echinococcus granulosus* which uses the dog as a definitive host. Human is the accidental intermediate host in the life cycle of the parasite.

The liver and lungs are the most affected organs. Cardiac location is rare. The mostly affected sites of the heart are the ventricles, and the interventricular septum; whereas the pericardium and the atria are the least affected [4].



**Figure 4:** Intraoperative view of removal of hydatid cyst from the breast.

The diagnosis of cardiac hydatid cyst can be confirmed by non-invasive investigations, particularly echocardiography.

Cardiac and lung hydatid cyst one-stage operation has many advantages. The patient is operated on just once. So, deterioration of the patient's general condition in the period between the operations is avoided, and the period of rehabilitation, as well as the treatment costs, are considerably reduced.

The median sternotomy is suitable for this surgery: it involves less postoperative chest pain, and avoids the deterioration of the respiratory function. Also, it decreases the hospital stay [5].

## Conclusion

Multi-organ involvement is common with cardiac echinococcosis. Due to serious complications, surgical excision is the treatment of choice. One stage surgery in patients who have cardiac and lung hydatid cysts with cardiopulmonary bypass by median sternotomy is safe and satisfactory.

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