

# A Case of Atypically Located Hydatid Cyst Eroding the Sternum

## Sternumu Erode Eden Atipik Yerleşimli Hidatik Kist Olgusu

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Abstract

Özet

Hydatid disease caused by echinococci is seen endemically in Turkey. Its location in tissues outside of the liver and lung is rare. Most of the mass lesions involving the sternum are malignant. We present a case of hydatid cyst located in the sternum and eroding it.

Ekinokokların neden olduğu hidatik hastalığı ülkemizde endemik olarak görülmektedir. Karaciğer ve akciğer dışı dokularda yerleşimi nadirdir. Sternumu tutan lezyonların çoğu maligndir. Yerleştiği sternumu erode eden hidatik kist olgusunu sunuyoruz.

**KEY WORDS:** Echinococcosis, sternum, mediastinum

**ANAHTAR SÖZCÜKLER:** Ekinokokkoz, sternum, mediastinum

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### INTRODUCTION

Hydatid cyst is a parasitic disease known to be located usually in the liver and lungs. Common intrathoracic and extrapulmonary locations are the mediastinum, pericardium, pleurae, diaphragm, and chest wall. Its location in bony structures is rare. Extrapulmonary location of the disease inside and outside of the thorax is very rare. The diagnosis may be difficult when rupture occurs. People whose work involves raising and handling sheep and cattle frequently encounter echinococci. Surgery is the main treatment method. Atypical location is common where it is endemically seen. Hydatidosis is kept in mind while evaluating soft tissue masses [1-3]. We present a case of sternal hydatid cyst eroding the osseous structure.

### CASE PRESENTATION

A 55-year-old cook was admitted with a mass of 8 x 5 cm palpated on his sternum and located subcutaneously. His past history disclosed an operation on his right lung for hydatid disease 25 years ago. The swelling was soft, not tender, and immobile on physical examination. His chest X-ray was not demonstrative.

He presented with complaints of cough, dyspnoea, and occasional pain in his right shoulder on exertion. The physical examination revealed no abnormalities. Laboratory tests were unremarkable. A chest X-ray revealed a 4 x 3 cm mass on the apical portion of the right lung (Figure 1). A subcutaneously located mass of 8 x 5 cm with heterogeneity and indefinite borders was found to erode and deform the sternum on computerised tomographic scan (Figure 2). No finding consistent with hydatid cyst was discovered in the systems or the liver. The cystic mass involving the sternum was excised and was in fact germinative membranes, indicating hydatid disease, when seen macroscopically (Figure 3). The resultant osteitic bone was resected and the sternal defect (two-thirds of the corpus sterni and xiphoid) was repaired with allograft bone tissue. Stabilisation the sternum was provided. Pathological examination confirmed hydatid cyst disease. The postoperative period was favourable and complications did not occur. The sternum at the follow-up was found to be stable (Figure 4).

### DISCUSSION

Hydatid disease is a parasitic infestation caused by echinococci. Humans take echinococcal eggs via contaminated water and food, or contact with dogs. The liver and lungs are the primary sites of infection, though the parasites may be located in any organ or tissue outside of the liver and lungs. It is known that hydatid cysts occur in different anatomic locations. Embryos escaping the liver and lungs may be seen in the organs and tissues of the abdomen and thorax, and even in the brain and bones [4]. Localisation of hydatid disease in bones is very rare. Ribs, sternum, or soft tissues of the chest wall may become the location of infection [5]. The rate of involvement of bones in hydatid disease is 0.9-2%. This rate is 50-70% in the liver, 11-17% in the lungs, 2.4-5.3% in soft tissues, 0.5-3% in the heart, 5% in the pericardium, and 0.5-4.7% in the muscles and subcutaneous tissue [5-7]. There are few cases reported in the literature. In the above case, it involved neither the lung nor the liver. A rare presentation of intrathoracic hydatid lesion may lead to misdiagnosis. As seen in the current case, an intrathoracic extrapulmonary hydatid cyst located in the bony structures can cause bone destruction and mimic sternal tumours.

Diagnosis of intraosseous hydatid cysts is difficult because they do not have pathognomonic radiological findings. Computerised tomography is the choice of imaging. Typical manifestations of the disease may not occur in bony hydatids. Their appearance can be similar to cortical destruction [2,4]. The rigid structure of the bones limits the enlargement of cysts so they grow insidiously. When the cortical integrity of the bone breaks down, the cyst causes evident findings as it expands into the adjacent tissues and exerts pressure. Malign fibrous histiocytoma, chondrosarcoma, myeloma, metastatic tumours, and aneurysmal osseous cysts are

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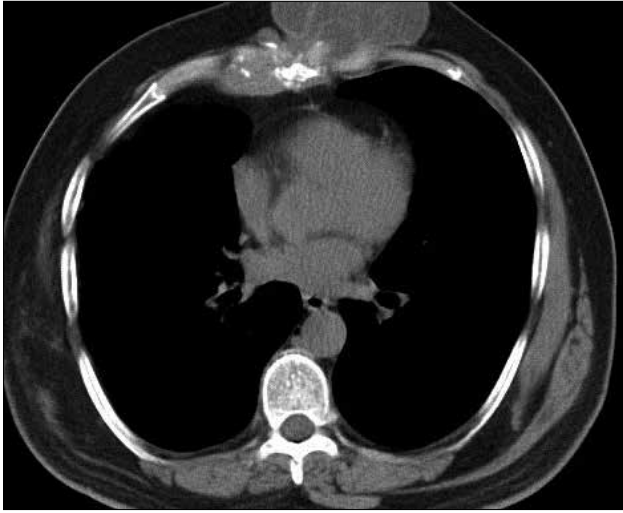
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**Figure 1.** Chest X-ray showing a slight mediastinal enlargement



**Figure 2.** The mass involving the sternum

considered in differential diagnosis [5,6].

In endemic areas, hydatid cysts may be encountered in any anatomical location outside the liver and lungs. Hydatid disease is uncommon in developed countries but possible in immigrant populations. It is important that hydatid cysts should be considered in the differential diagnosis of mediastinal tumours in case of doubt. The gold standard is wide excision of the rib, and an excellent outcome depends on careful protection of the periphery.

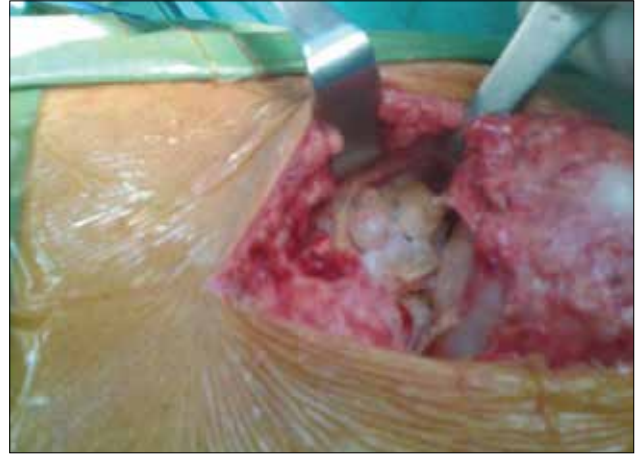
**Informed Consent:** Written informed consent was obtained from patients who participated in this case.

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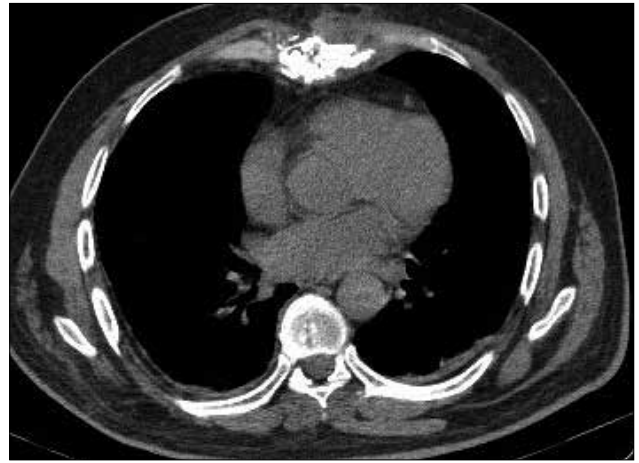
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**Figure 3.** Intraoperative view of hydatid cysts



**Figure 4.** The view of the sternum at the follow-up

**Hasta Onamı:** Yazılı hasta onamı bu olguya katılan hastalardan alınmıştır.

**Hakem değerlendirmesi:** Dış bağımsız.

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