Purpose: Hydatid disease is endemic in many parts of the world. Mediastinal hydatidosis is seen less than 0.1% of all hydatid diseases. We want to report our primary mediastinal hydatid cysts.

Materials and Methods: In this retrospective study, from January 2010 to December 2012, 158 patients with intrathoracic hydatid cysts were operated in our thoracic surgery clinic. Nine of 158 (5.69%) patients had mediastinal hydatid cyst. Chest X-ray and computed tomography (CT) were used as diagnostic tools.

Results: Hydatid cyst was confirmed surgically and pathologically in all the patients. Anterior mediastinal hydatid cysts and one cardiac involvement were determined in our study. While total cyst excision was performed in seven patients, partial pericystectomy could be done in two patients. In one patient, left ventricle invasion was seen and it was totally excised. Postoperative albendazole was applied to patients and there was no recurrence of disease till now.

Conclusions: Mediastinal hydatid cysts are uncommon and should be kept in mind in differential diagnosis of mediastinal cystic lesions especially in endemic regions. Surgical resection must be done and then medical therapy is needed to prevent recurrence.

Keywords: hydatid cyst, mediastinal cyst, cardiac cyst
### Results

There were six men and three women who lived, in rural areas of Southeast Anatolia, in contact with carnivores and sheep. Median age was 33.7 years (range 16–57). Two patients had surgery because of liver cyst 3 years earlier. These patients were asymptomatic and their cysts were determined at routine control with chest X-ray and thoracic CT. Seven patients were symptomatic with chronic cough for 3 to 6 months (3 patients), dyspnea (1 patient), pressure feeling at thorax and chest pain (3 patients) (Table 1). Chest X-ray and CT revealed mediastinal cystic masses in all the patients (Figs. 1 and 2). Magnetic resonance imaging was needed to exclude cardiac involvement in three patients. In one patient, cardiac involvement was observed. Serologic tests were not done because of low diagnostic values with high rates of false positive or negative results especially in endemic

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<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Gender</th>
<th>Symptom</th>
<th>Location</th>
<th>Surgery</th>
<th>Operative time</th>
<th>Postoperative morbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>Male</td>
<td>Chronic cough</td>
<td>Anterior mediastinum</td>
<td>Total excision</td>
<td>110 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>2</td>
<td>57</td>
<td>Male</td>
<td>Chronic cough</td>
<td>Anterior mediastinum</td>
<td>Partial pericystectomy dense adhesions to brachiocephalic vein</td>
<td>150 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>Female</td>
<td>Chronic cough</td>
<td>Anterior mediastinum</td>
<td>Total excision</td>
<td>85 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>4</td>
<td>42</td>
<td>Male</td>
<td>Dyspnea</td>
<td>Anterior mediastinum</td>
<td>Partial pericystectomy because of adhesions to aorta</td>
<td>170 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>Female</td>
<td>Chest pain with pressure feeling</td>
<td>Left ventricle invasion</td>
<td>Total excision</td>
<td>125 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>6</td>
<td>47</td>
<td>Male</td>
<td>Chest pain with pressure feeling</td>
<td>Anterior mediastinum</td>
<td>Total excision</td>
<td>100 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>7</td>
<td>23</td>
<td>Male</td>
<td>Chest pain with pressure feeling</td>
<td>Anterior mediastinum</td>
<td>Total excision</td>
<td>95 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>8</td>
<td>28</td>
<td>Female</td>
<td>Asymptomatic</td>
<td>Anterior mediastinum</td>
<td>Total excision</td>
<td>95 minute</td>
<td>No complication</td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>Male</td>
<td>Asymptomatic</td>
<td>Anterior mediastinum</td>
<td>Total excision</td>
<td>102 minute</td>
<td>No complication</td>
</tr>
</tbody>
</table>

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**Fig. 1** Chest X-ray of a patient with mediastinal enlargement.

**Fig. 2** Chest computed tomography (CT) shows septations of cyst in mediastinum.
areas. Surgery was the primary treatment modality and sternotomy was preferred according to cyst localization (Fig. 3). While total cyst excision was performed in seven patients, partial pericystectomy was done in two patients. Part of cyst wall was left which was stuck very densely to brachiocephalic vein and ascending aorta. In one patient, left ventricule invasion was seen and it was totally excised together with cardiac surgeon (Fig. 4). There were no complications and mortality, intra or postoperatively. The mean hospital stay was 6 days (range 5 to 9 days). Postoperative albendazole (10 mg/kg/day) was applied to the patients for 3 months. Patients were followed up monthly with hepatic function tests and chest X-ray. There was no recurrence of disease.

Discussion

The incidence of mediastinal echinococcosis is about 0.1%–0.5% among intrathoracic hydatid cysts. Rakower and Milwidsky reported only 25 cases (0.1%) of hydatid cysts in the mediastinal compartment in more than 23,000 patients with hydatid disease. We think that, our higher incidence of mediastinal hydatid cysts with 5.6% was caused by close contact of patients with sheep and carnivores. And also, hydatid disease is endemic in certain parts of Turkey. Traibi and Eroğlu found high mediastinal involvement rates as their patients were living in the endemic regions.

Hydatid cysts are uncommonly found in the mediastinum. Mediastinal cysts generally cause symptoms. Symptoms depend on cyst size, location and compression of mediastinal organs. In our patients, we observed chronic cough, dyspnea, chest pain with pressure feeling at thorax. Two patients were asymptomatic.

In literature, posterior mediastinal or paravertebral involvement are more common. Different from the other studies, we did not observe posterior localisation. Anterior mediastinal hydatid cysts and one cardiac involvement were determined in our study.

Radiological imaging is done by chest X-ray and CT. Tomography is important for determining morphology, density and borders of lesion. Multivesicular structure and calcifications could help to physician to decide diagnosis as hydatid cyst. To show spinal involvement, magnetic resonance imaging can be used. At three
patients, we used magnetic resonance imaging to exclude cardiac invasion in addition to tomography. Cardiac invasion was observed in one patient and surgery was performed together with cardiac surgeon. We think that, magnetic resonance imaging could be used in selected patients especially to rule out cardiac involvement.

Serological tests are usually negative for intact and uncomplicated hydatid cysts.\textsuperscript{2,12,14} Mediastinal hydatid cysts are usually intact because of rare opening into bronchi. We did not perform any serological test due to their relatively low diagnostic values.

Complications of mediastinal hydatid cyst can be rupture into the mediastinum and pleural cavity, cysto-aortic fistula with the possibilities of multiple systemic embolization, infection, compression of vital structures, and pulmonary embolism in case of rupture into the right ventricle.\textsuperscript{11,12,15,16} To prevent these complications, surgery must be done for mediastinal hydatid cyst.

In conclusion, mediastinal hydatid cysts are uncommon and should be kept in mind in differential diagnosis of mediastinal cystic lesions especially in endemic regions. Surgical resection must be done and then medical therapy is needed to prevent recurrence.

**Disclosure Statement**

I have no financial or other conflict of interest.

**References**