

# An Unusual Cause of a Mass in the Supraclavicular Location: Primary Hydatid Cyst: Case Report

## Supraklavikuler Alanda Görülen Kitlenin Ender Bir Sebebi: Primer Hidatik Kist

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**ABSTRACT** Hydatid cyst is an important health issue for endemic regions including Turkey. The prevalence of that seen in organs other than liver or lung is five percent. Isolated chest wall location is rarely seen and the rarest location is the soft tissue location, especially the supraclavicular location. A 46 years old patient, who admitted with complaint of right supraclavicular mass, was operated. Mass was diagnosed as hydatid cyst perioperatively. There have not been any complications evolved during the follow up period of seven months. We report our case owing to the rarity of hydatid cyst originated from supraclavicular location.

**Key Words:** Surgery; echinococcosis, pulmonary

**ÖZET** Hidatik kist, Türkiye'nin de içinde bulunduğu endemik bölgeler için önemli bir sağlık sorunudur. Karaciğer ve akciğer dışındaki organlarda görülme sıklığı yüzde beştir. İzole göğüs duvarı yerleşimi çok enderdir. Göğüs duvarında ise en nadir olarak yumuşak dokuda, özellikle de supraklavikuler alanda yerleşir. Sağ supraklavikuler alanda kitle nedeniyle başvuran 46 yaşındaki hasta opere edildi. Kitleye perioperatif olarak hidatik kist tanısı kondu. Takip eden yedi aylık süreçte hasta sorunsuz izlenmektedir. Olgumuzu supraklavikuler alandan köken alan kist hidatiğin oldukça nadir olması sebebiyle paylaştık.

**Anahtar Kelimeler:** Cerrahi; ekinokokkoz, pulmoner

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**H**ydatic cyst is a zoonotic infection. It is endemic in the Mediterranean region, including Turkey.

Humans become accidentally involved in the cycle via oral ingestion of the cystic form of the parasite. The orally ingested cyst unfolds in the duodenum and initially spreads to the liver via the vena porta via a hematogenous or sometimes lymphogenous route, and then to the lungs via the venous system; from the lungs it can potentially spread to any organ via the arterial system. The parasite can localize in any organ in the body with an arterial blood supply, but the most common localization is the liver (55-60% of cases), followed by the lungs (25-30% of cases); localization to other organs occurs in approximately 5% of the cases.<sup>1</sup>

Isolated chest wall location is rarely seen.<sup>1</sup> The rarest locations at chest wall location are subcutaneous fat and muscle tissues. Usually, hydatid cyst seen at skin originates from another primary organ. However, there are only few hydatid cyst cases that subcutaneous fat tissue involvement had been reported without any primary internal organ involvement in the literature, especially in the supraclavicular location.<sup>2-4</sup>

## CASE REPORT

We report this case after we got the informed and written consent of our patient.

A 46 years old male patient who is a farmer, admitted with the complaint of palpable supraclavicular mass.

Ultrasonography of supraclavicular area was reported as multilocular cystic mass. Upon this, magnetic resonance imaging (MRI) of right shoulder was performed and reported as 7x3.8x4.6 cm size multilocular cystic mass (Figure 1). No other lesions were reported on thoracoabdominal computed tomography (CT).

The cyst was prediagnosed as hydatid cyst and reached by an incision made upon the supraclavicular location. By the aspiration of cyst fluid confirmed hydatid cyst diagnosis. Cystotomy and capitonnage were applied. Many daughter cysts were removed out from the cyst (Figure 2).

Postoperatively perioral albendazole treatment with 2x400 mg had been applied for nine weeks as periods of three weeks. After three weeks treatment and a week of pause, liver function tests were checked out and seen to be normal for the continuation of the treatment.

Thoracoabdominal CT control was performed in the postoperative sixth month. There have not been any complications or evolved recurrences, at the patient during the follow up period of seven months.

## DISCUSSION

The subcutaneous cyst hydatid incidence is 2%. However, this ratio also includes the secondary hy-

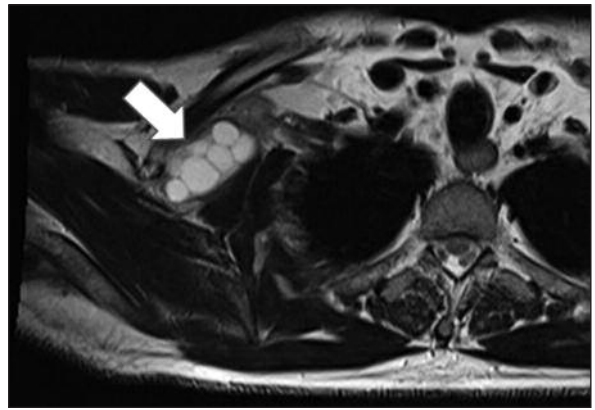


FIGURE 1: Hydatid cyst at supraclavicular location by using a heavily T2-weighted sequence of transverse section in magnetic resonance imaging (white arrow).

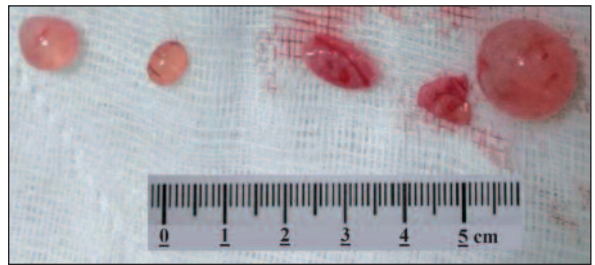


FIGURE 2: Daughter cysts that were removed out of the hydatid cyst.

datid cyst cases.<sup>1</sup> Disease of our patient is very rare. Because, it was in the subcutaneous tissue and primary.

Diagnosis of *Echinococcus* should be considered when slow growing soft tissue is present in patient from a rural area especially at endemic country. The main complaints of patients is pain.<sup>3</sup> In our patient, there were no symptoms except for soft lump in the right supraclavicular location.

Patient's history, physical examination and radiologic imaging helps in diagnosis. Thoracoabdominal X-rays, ultrasound and CT scans should be performed to rule out involvements of other organs, particularly liver and lungs.<sup>4</sup> In previous history of our patient, there are some features that would give us hints about hydatid cyst. These are his pastoral life and farming. Hydatid cyst was our

preliminary diagnosis with the help of imaging techniques like ultrasonography and MRI. Due to our preliminary diagnosis of hydatid cyst, other systems as liver or lung were scanned preoperatively. We have prepared our equipments about hydatid cyst for the operation. Therefore, we have prevented the possible preoperative and postoperative complications.

Imaging techniques helped us, also by providing our prevention from needle aspiration to the cyst. Because, preliminary diagnosis of hydatid cyst came to our mind by imaging techniques. So that; the protection from complications as rupture of the cyst, have been ensured. As is known, needle aspiration of the cyst may cause cyst wall rupture theoretically. Although, needle aspiration can be curative in some locations like liver, there are not any experiences about supraclavicular location yet that have been reported. Also, although aspiration allows to removal of the parasite, the germinative membrane and null cavity has been reported to cause recurrent infections.<sup>5</sup> So that we have not try to needle aspiration in our case.

The best treatment option is total surgical excision without opening the cyst. Aytekin et al have only proposed the excision for small cysts.<sup>5</sup> If the cyst is large and/or can not be excised without opening, the fluid contents should be removed, the laminated membrane should be totally excised, and the cyst pouch should be irrigated with scolicedal solutions. This approach have been applied in our patient. Because, the deep location and its vascular relationships has made difficult to the excision of the cyst.

The general approach is, to do capitonnage after irrigation of cyst pouch.<sup>5</sup> However, if the sur-

geon thinks that, the pouch could spontaneously closed, the opposite may also true. In our case, seroma was predicted to develop if we had not do capitonnage. Because, the cyst size was too large. So we need to do capitonnage.

Our case is very similar to other cases that have been reported in the literature until now; by the aspects of cyst location, clinical presentation and imaging studies. Jarbouli et al. and Iynen et al. also applied the surgical technique of cystostomy and capitonnage, like us. However, the cyst was excised totally by Mohindra et al. Jarbouli applied albendazole treatment for 8 weeks and Iynen for 4 weeks, postoperatively. Nevertheless, Mohindra et al. did not mention from any other medical treatment.<sup>2-4</sup> All these cases including ours, have been followed up without any complications or recurrence. This information have supported, the hypothesis that all treatment methods has resulted in the success.

The optimal duration of treatment is uncertain. In general idea; drug should be continued one month for intact cysts and three to six months for ruptured cysts following the surgery.<sup>6</sup> We performed cystotomy in our case. Therefore, we applied albendazole for three months starting from postoperative zero-day.

Albendazole inhibits microtubules assembly and increases rigidity; therefore may cause of rupture of the cyst wall perioperatively.<sup>7</sup> Sanli et al. did not apply albendazole treatment due to cyst wall rupture risk of albendazole by increased rigidity of cyst wall.<sup>8</sup> We also did not apply preoperative albendazole treatment owing to the reasons that hydatid cyst diagnosis was unclear yet and rupture risk of cyst wall like Sanli et al.

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