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Case Report

Unexpected location of hydatid cyst

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Abstract

Cyst hydatid is a parasitic infectious disease caused by Echinococcosis. Even if the liver and lung are mainly affected organs, this cyst can be seen in every organ. Clinical presentation varies depending on the affected organ. We report here an unusual location of hydatid cyst, such as intermuscular septum of left scapular area. Sixty-five years of woman presented a swelling of left-back, and after surgery, her pathological diagnosis was hydatid cyst. Hydatid cyst is a common disease worldwide, and this disease is known to affect usually liver and lungs, but especially in endemic areas, every doctor should be aware when patients come to the clinic for soft tissue swelling of the different body areas.

Keywords: Echinococcal infection; hydatid cyst; soft tissue

INTRODUCTION

Hydatid cyst is a disease caused by Echinococcus larvae. There are three forms that lead to infection. *Echinococcus granulosus* gives rise to the unilocular cyst, *Echinococcus multilocularis* gives rise to the multilocular cyst, and Echinococcus vogeli gives rise to polycystic form(1). While the primary carriers are members of the canine family such as dogs, wolves, and intermediate hosts are cattle, sheep, and deer; generally, humans do not play a role in this biological cycle. If humans ingest ova from the soil and drink water contaminated by the feces of a member of the canine family, they will be infected(2).

The liver (59-75%) is the mainly affected organ, followed by the lung(27%) and the rest of the part of the body(%10) (3). Some organs such as spleen, pancreas, kidney, heart, ovarian, incision scar, retroperitoneal space, brain, and musculoskeletal or soft tissue can be affected. (4) Musculoskeletal hydatidosis is very uncommon and composes 1-5.4 % of all of the cases which imitate a soft tissue tumor(5).

Hydatid cyst is widespread in societies in which raising animals and agriculture are popular, also serious public health problems in many countries, including Turkey. The clinical presentation depends on involved organs, but generally, hydatid disease shows itself as a slowly growing mass.

The cycle consists of 3 layers, and they placed from outside to inside as pericyst, the middle laminated membrane, and the germinal layer, respectively. Pericyst is composed of cells which are modified from host cells and fibrous protective zone. The middle membrane allows the passage of nutrients with diffusion. Finally, the germinal layer is a layer where the scolices and laminated membrane are produced. Germinal layer and the middle laminated membrane are both known as the endocyst, the acellular laminated membrane is known as the ectocyst. Daughter vesicles are spheres that consist of the protoscolices which are formed from the germinal layer. Cyst fluid is antigenic and could also contain hooklets and scolices. The fluid is a clear or pale yellow, has a neutral pH also comprises proteins, glucose, sodium chloride, lipids, polysaccharides, and ions (5).

Parasite's adult form lives in the definitive host's proximal small bowel. Normally humans are not hosted for the parasite, they have affected accidentally. When they ingest the eggs from contaminated soil or water, eggs lose their enveloping layer in the human's stomach and release their embryos. The embryos reach the liver in where most of the larvae become encysted through the portal vein.

At present, there are two categories of serological tests for the diagnosis of a hydatid cyst. One is the detection of the antibody in the blood serum, the other is the detection of antigen from the fluid. Casoni test,enzyme-linked immunosorbent assay (ELISA) and indirect haemagglutination (IHA) are serological tests which often used for diagnosing.

We present a case of hydatid cyst in parascapular muscle due to its outstanding rarity and differential diagnosis for scapular soft tissue tumors.

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CASE REPORT

Sixty-five years old woman patient presented to our hospital with the grievance of increasing back pain with swollen (Figure 1). Physical examination showed an approximately 6*10 cm mass, which was soft and semi-mobile swollen and was located in the left scapular zone.

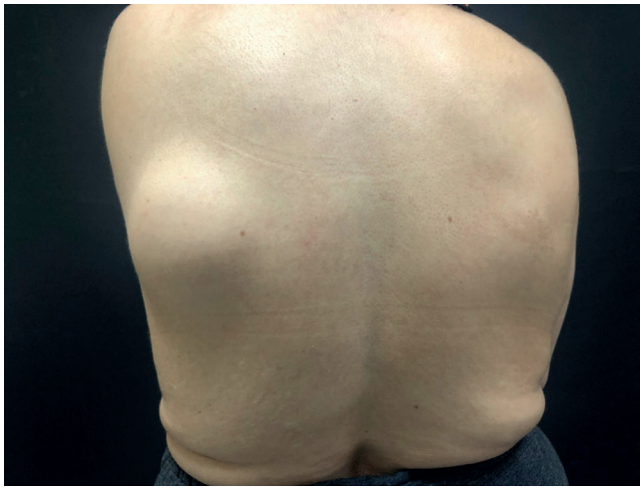

Figure 1. View of the mass of the patient from behind

She was sent to radiological analyses; her ultrasonographic (USG) report showed a bulk which compatibles with lipoma. Preparation of operation was begun, and under general anesthesia, after the surgical area was covered in sterility, the inferior scapular incision and meticulously dissection were performed, then the skin island was elevated, and we reached to periscapular muscles and other soft tissues. And a bulk was determined between periscapular muscles where protoscolices were macroscopically selected. We figured out that the mass was deeper than the ultrasound interpretation.

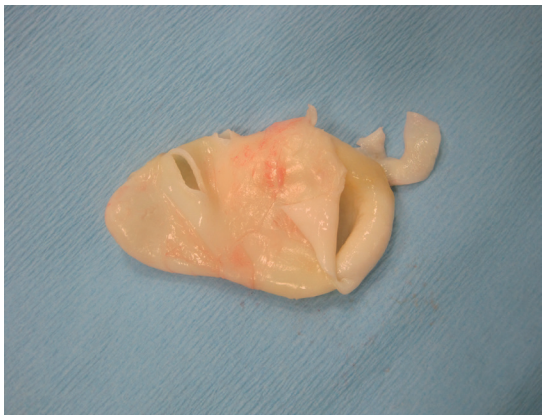

Figure 2. An encapsulated form of the cyst

A bulk was covered with transforming into capitonnage with wider exploration (Figure 2). Great care was taken to avoid spillage of the contents while separating the cyst wall from the surrounding tissues. The cyst was taken out without any damage to the cyst wall, although spillage of the cyst contents was avoided; the operation area was thoroughly irrigated with a hypertonic saline solution. Then the skin was closed layer by layer, and during the closing latissimus dorsi and the other muscle fibers were preserved.

The specimen was sent for pathological analysis, and the mass was macroscopically compatible with the hydatid cyst. However, the final diagnosis was made at the end of microscopic examinations.

After the operation, the patient was sent to radiological analyses; no found residual mass was showed on computerized tomography.

No positive data has been determined by her serological tests. Although we thought that surgery alone would be sufficient in this patient, the results of the screening were evaluated by the department of infectious diseases and general surgery in the postoperative period and a short-term albendazole treatment was started with their consensus because the patient had a complaint about taking cystic mass from another part of his body 15 years ago.

The patient had taken albendazole (3*400 mg) for three months, no recurrence was observed following one year after surgery. And no evidence of infection was found in blood parameters. The complication related to loss of muscle function was not observed in the post-operative period (Figure 3).

Figure 3. Postoperative first year

DISCUSSION

Hydatid cyst is a disease which causes public health problem and economic losses. The liver and lung are organs that are often affected. The right lobe of the lung is more influenced than the left sides because of its inclination. (6) Especially in endemic areas, there are different affected locations. In literature, Santosh et al. showed that the cyst could affect the eye. (7) Sometimes hydatid disease can cause a fracture with a suspicious lytic lesion on X-ray. (8) Bone, muscle, and soft tissue

infections are rare. Sometimes bone hydatid cyst is similar to tuberculosis. (9)

Soft tissue infection can present as a tumor such as a lipoma. (1) If clinicians try to remove a mass under local conditions, they may encounter a bad surprise. In developing countries such as Turkey, certain activities can increase the risk of infection of people. The widespread rural practice of feeding dogs with the viscera of sheep, which is cut under non-sterile conditions, is one of the most important factors. (10) Sometimes, larvae can pass through the lungs and the liver with a capillary system and locate in the heart. After reaching the heart, larvae may disperse to the entire body except for teeth, nails, and hairs. The doctors who work in the endemic area should be vigilant about any mass lesion of soft tissue.

Eosinophilia is expected most patients; cyst hydatid is diagnosed by asking history, doing the examination, and with the helped of radiological imaging. Ultrasonography is the first radiological tool used to diagnose. Computerized tomography(CT) can be used to confirm for conclude of ultrasonographic results. A combination of CT scan and USG are the most beneficial imaging diagnostic tools. IHA and ELISA tests ensure the most trusty result for recurrence after surgery. Though efficacy, specificity, and higher sensitivity of ELISA, generally, IHA is used because it is easier to use and cheaper than ELISA. (5) There is no definitive conclusion about the addition of medical treatment after surgical treatment in the non-internal organs of the hydatid cyst.

CONCLUSION

We conclude that cyst hydatid may occur in every organ except nails and hair. Especially in the endemic area, when patients have recourse to hospital for swelling any part of the body, doctors should consider cyst hydatid in the differential diagnosis. Even there are many clinical types of research about alternative treatment for cyst hydatid, failure to diagnose with examination findings and preliminary examinations can lead to the disintegration of the larvae and fatal symptoms.

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