

Unusual localization of a primary hydatid cyst: a subcutaneous mass in the paraumbilical region

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Abstract. – Hydatid cyst disease caused by *Echinococcus granulosus* is not a rare disease and mostly localized in liver and lung. The localization of the disease in the subcutaneous paraumbilical region without any other organ involvement is a unique existence that we present. A 63-year-old Turkish male complaining of abdominal distention and pain had an abdominal mass for one year. When the patient came to our Clinic, we detected a 4x5 cm mass in the left quadrant- paraumbilical region by using ultrasonography. Complete surgical resection of the mass was performed with uneventful post-operative recovery. Histopathological examination of the surgical specimen demonstrated a multive-sicular hydatid cyst.

When a subcutaneous cystic mass is detected in a patient, regarding the region where he lives and endemicity, hydatid cyst should be considered.

Key Words:

Hydatid cyst; subcutaneous; paraumbilical, *echinococcus granulosus*.

Introduction

Hydatid disease is an endemic zoonosis caused by the cestode *Echinococcus granulosus* which uses the human body as an intermediate host. The disease has a zoonotic origin and there are few countries which are free of autochthonous *E. granulosus*^[1]. On the other hand, the disease is endemic in the regions such as South America, Middle East, North Africa, and Europe¹. The most common sites of the human body that are affected by *E. granulosus* are liver and lungs (78%)^{2,3}. The rest of the sites other than liver and lung include muscle, peritoneum, bone, spleen, pancreas, heart, kidney and brain (22%)^{2,3}.

Primary subcutaneous hydatid cyst without involving thoracic or abdominal organs is extremely rare and the primary subcutaneous mass in the

paraumbilical region has a unique existence^[2]. We present a patient who has a subcutaneous mass in the hypogastric area without local inflammatory signs.

Case Presentation

A 63-year-old Turkish man came to our Clinic only with abdominal distention and pain. He had an abdominal mass for one year and his complaints had worsened with a growing mass. He was working in a lime factory and had no avocation for risk factors such as pets or farming.

During the physical examination, a subcutaneous palpable mass was detected (Figure 1).

Complete blood count and chest X-ray were normal. On the ultrasonography, a 4 × 5 cm subcutaneous mass was detected in the left quadrant-paraumbilical region. The computed tomography showed no abdominal abnormalities. Serological enzyme-linked immune-absorbent assay (ELISA) was negative for the Echinococcal antigens.

A complete surgical resection was performed carefully to keep the mass intact and not to cause any other cyst formation (Figure 2).

Histopathological examination of the surgical specimen demonstrated that the mass was a multivesicular hydatid cyst (Figure 3).

The patient was started on albendazole for three months (10 mg/kg/day).

Uneventful postoperative recovery of the patient was provided. Removed hydatid cyst is showed on Figure 4

Discussion

E. granulosus ova are ingested as an intermediate host and can be transferred to the organs and tissues via systemic circulation. Hydatid



Figure 1. The subcutaneous mass in paraumbilical region.

cysts can localize in anywhere in the body. Most common sites for localization are liver, lung and spleen². In the literature, the occurrence of the subcutaneous hydatid cysts is 2% and most of these subcutaneous localizations are secondary to other organ localizations such as liver or lung^{4,5}. The primary subcutaneous hydatid cysts are very rare^{4,6}. In our case, the hydatid cyst was only found in subcutaneous hypogastric region without other organ involvement which indicates that the cyst was primary.

Hydatid cystic disease has a nonspecific clinical course and symptoms depend on its localization and size. It usually presents as painless, non-inflammatory mass⁷. Proper history taking, knowledge about endemics and risk factors and using variety of diagnostic methods such as US, CT, ELISA tests or hematological tests are important for the diagnosis of cases with subcutaneous findings.

US is a useful tool for determination of localization, size, type and diagnosis of the cyst. Moreover, CT can be helpful for the other organ

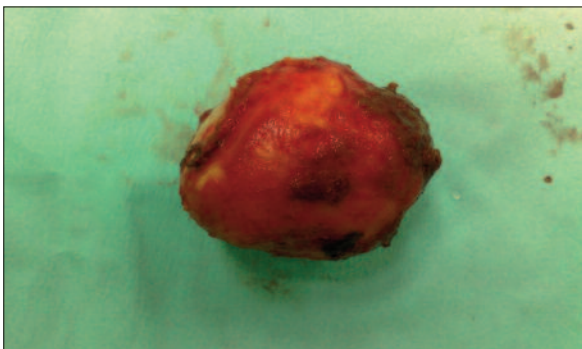


Figure 2. 4 x 5 cm hydatid cyst after the complete surgical resection.

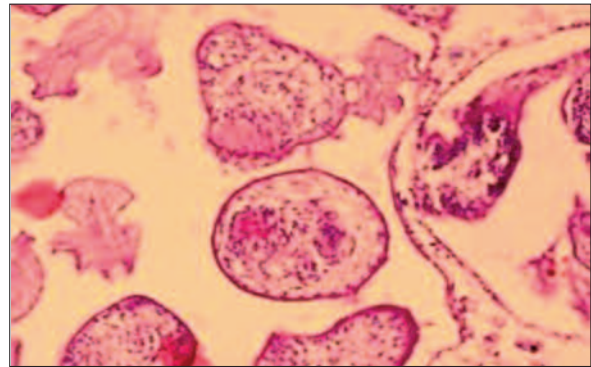


Figure 3. Histological view (Hematoxylin & Eosin stain x 200) of the cyst showing thick fibrous wall and necrotic material.

involvement and preparation of the surgery by showing the adjacent organs¹. Although it is less capable of detecting calcifications, MRI can show most of the features of a hydatid cyst⁸. As a result, preoperative tests can be helpful to exclude the other conditions and avoid applying unnecessary procedures. Serology is also a helpful diagnostic tool in hydatid cystic disease; however, it is rarely positive in extra-hepatic and extrapulmonary localizations⁹.

The best treatment choice for primary hydatid cysts is complete surgical resection⁴. In the subcutaneous cyst removal, the resection should be done very carefully without causing any rupture since the subcutaneous cyst location is difficult to determine before the surgery⁴. If the cyst is not available to be removed in an intact form, the content of the cyst should be removed intraoperatively and the empty cyst should be washed with scolicidal agents and then be removed^{8,10}. Drug treatment with albendazole for three months showed beneficial outcomes for preventing the postoperative recurrence of hydatid cystic disease¹¹.

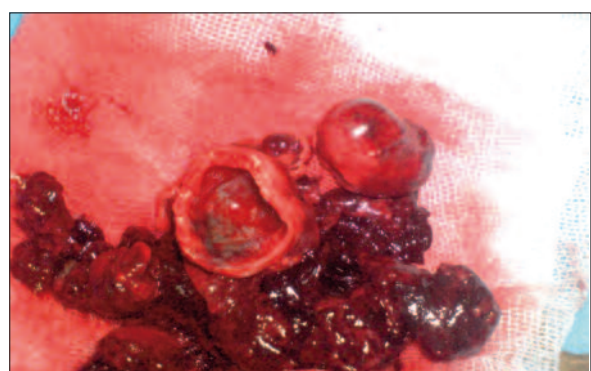


Figure 4. Removed hydatid cyst.

Conclusions

When a subcutaneous cystic mass is detected in a patient who is living in, have lived in or visited a region which is under a high risk for *Echinococcus granulosus*, the diagnosis of hydatid cyst should be considered. Best treatment is the surgical excision of the cysts.

Conflict of Interest

None.

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