

## An unusual presentation of hydatid cyst in anterior abdominal wall

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### Abstract

Hydatid disease is a parasitic infestation caused by the larval form of the cestode worm *Echinococcus*. The most commonly encountered form of the disease is visceral hydatid cyst caused by *Echinococcus granulosus* or dog tapeworm. Muscular involvement has been reported in only 3-4% cases. We are reporting this case because of its rarity, difficulty to diagnose clinically, dramatic response to medical treatment and to alert the reader of this rare infestation so that open biopsy will be avoided.

**Key words:** Hydatid cyst, parietal wall, medical treatment

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Hydatid disease is a parasitic infestation by a tapeworm of the genus *Echinococcus*. Human echinococcosis is a zoonotic infection caused by the tapeworm of the genus *Echinococcus*. Dog is the primary host in echinococcal infestation while the intermediate hosts are sheep, cattle, horses, and occasionally man. For this reason, hydatid disease has its highest incidence in sheep and cattle-rearing regions, such as the Mediterranean countries, the Middle East, the southern part of South America, Iceland, Australia, New Zealand, and southern parts of Africa<sup>1,2</sup>. In hydatid disease, muscles, apart from myocardium, are generally only involved as a result of spread from hepatic or pulmonary foci. Primary hydatidosis of skeletal muscle is therefore rare, with reported prevalence of 0.5–4.7%<sup>3,4</sup>. It has been hypothesized that the presence of lactic acid in the muscles does not allow the larvae to grow into cysts<sup>5</sup>. Nevertheless, some cases of primary muscular hydatidosis at various sites had been reported, i.e. thoracic wall<sup>6</sup>, sartorius<sup>7</sup>, biceps brachii<sup>5</sup>, supraspinatus<sup>8</sup>, gluteus<sup>9</sup>, and soleus muscles<sup>10</sup>, but involvement of abdominal parietal wall had not been reported till now. Extrahepatic and extrathoracic involvement of the hydatid disease including bones, heart, spine, pelvic-perianal region, muscles, subcutaneous space, adrenal, ovaries, retroperitoneum, breast, and cranium have been reported. The recommended treatment of *Echinococcus* is complete excision of the cyst lining and thorough irrigation of the cyst cavity with hypertonic saline to decrease the risk of recurrence. In an endemic region, where there is familiarity with this condition, the occurrence of hydatid disease in common sites makes for a straightforward diagnosis, but when it occurs in unusual sites (and in uncommon regions), the diagnosis may be difficult not only due to a low prevalence and

unusual location, but also because complicated cysts may resemble solid or complex lesions such as soft tissue tumors<sup>11</sup>. We are reporting this case because of its rarity, difficulty in clinical diagnosis, dramatic response to medical treatment and to alert the reader of this rare infestation so that open biopsy will be avoided.

### Case report

A 14 year male in our hospital presented with swelling in right anterior abdominal wall since three months. There was no history of fever, vomiting pain, trauma, weight loss, irradiation and other disorder. On physical examination 10 x 6 cm parietal swelling in right lower abdominal wall (at the junction of lateral 1/3<sup>rd</sup> and medial 2/3<sup>rd</sup> of the line joining umbilicus to anterior superior iliac spine) which was non tender, firm in consistency and skin overlying swelling was normal. There was no cough impulse in swelling and it was not reducible. [Figure-1]. On hematological examination, hemoglobin was 10.0 gm% total leucocytes count was 7500/cumm (neutrophil 65, lymphocyte 32 & eosinophil 3). Erythrocyte sedimentation rate (ESR) was 10 mm. X-ray abdomen and chest was normal. On ultrasound examination a well defined spindle shaped anechoic lesion of size 11.2x3.5 cm was seen in muscle of right lower abdominal wall (in right iliac fossa). The lesion had multiple daughter cysts [Figure-2]. The patient was subjected to plasma IgG anti-echinococcal antibody titers which was 14.27 U/mL at the time of presentation.

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### Correspondence

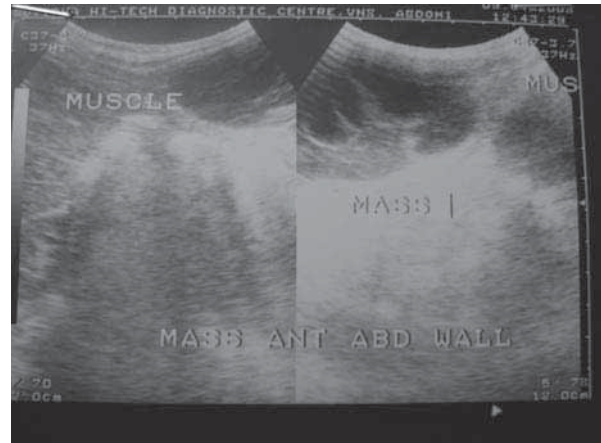
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The patients were reluctant to admission and operation, so the patient was managed conservatively (Albendazole - 50mg/kg/day). The patients came after 14 week with dramatic disappearance of the lesion [figure-3]. On repeat ultrasound examination the lesion had no daughter

cyst and lesion had almost disappeared [figure-4]. The repeat serological tests showed a decrease in the IgG anti-echinococcal antibody titres to 0.69 U/mL. He was under regular follow up for two years and is now asymptomatic.



**Fig 1:** Abdominal wall swelling in right lower abdomen



**Fig 2:** USG showing multiple daughter cysts in the abdominal wall



**Fig 3:** The patient after medical treatment



**Fig 4:** USG showing disappearance of lesion

## Discussion

In humans the infestation is usually localized in the liver and lungs, and rarely involves the brain, heart, bone, or other organs<sup>12</sup>. However, a review of the English medical literature also revealed cases involving the muscles of the chest wall<sup>6</sup>, sartorius<sup>7</sup> and biceps brachii<sup>5</sup>, supraspinatus<sup>8</sup>, and gluteus<sup>9</sup>, although it has been suggested that muscle provides a poor environment for the parasite because of the presence of lactic acid<sup>5</sup>. The clinical manifestation of the disease is formed by localization and pressure effect of the slowly growing cyst in the infected organ. Preoperative ultrasonography<sup>13</sup> and CT (Computerized tomography scan) are helpful in visualizing the cyst as well as daughter cysts. Fine needle aspiration biopsy is not recommended, since there is the risk of spillage and allergic reactions<sup>11</sup>. In present case, hydatidosis of parietal wall was diagnosed by ultrasonographic finding and was confirmed by plasma IgG anti-echinococcal antibody titers. The definitive treatment for hydatid cyst is surgery<sup>13</sup>, however, rupture of the cyst leading to spillage and contamination of the surrounding tissues should be avoided<sup>8</sup>. Medical treatment consists of Mebendazole and Albendazole especially for disseminated, inaccessible hydatidosis, and for patients who do not favor the morbidity of an operative process. Available data on the effects of medical treatment for recurrence is still lacking but there are few reports which advocate medical treatment<sup>14,15</sup>. In present, cases the patient was not willing for operation so we started medical treatment.

## Conclusion

The diagnosis of hydatidosis should be considered in cases of a symptomatic swelling in musculoskeletal system without history of trauma and irradiation when patients belong to endemic area to avoid fine-needle biopsy and the consequences of spillage of cyst contents.

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