



## Case Reports

# Unusual Presentation of Hydatid Cyst

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### Abstract

**Affection of muscle by a hydatid cyst is rare. The clinical diagnosis of a hydatid cyst occurring in muscle is quite difficult. To reach to a diagnosis, a clinician should be cautious in taking proper history, doing necessary physical examinations & some investigations like ultrasonography, blood examination & fine needle aspiration. Removal of the cyst by surgery is the treatment of choice**

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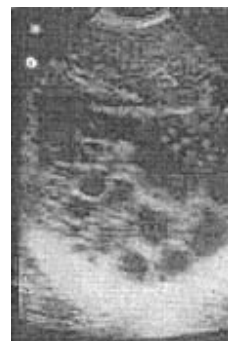
### Introduction

Hydatid disease may occur all over the world although it is usually found in endemic from in developing countries & cattle rearing areas of the world<sup>1,2,3</sup>. Many organs or tissues may be involved individually or at a time when it is known as hydatidosis<sup>1,2,4,5</sup>. The organism involves the muscle very rarely<sup>2</sup>. Here a case reported where the muscle was the site of involvement.

### Case report

A 30 years old lady coming from a remote village under the upazilla Sathia in the district of Pabna was admitted to Ichhamoti clinic, Shalgaria, Pabna on 13.1.2000 with a lump in the left lumbar region which she noted about one year ago. The lump was gradually increasing in size. She did not give any history of trauma, weight loss, pain in dorso-lumbar region, evening rise of temperature, cough, haemoptysis etc. On examination, a swelling size about 4 cm × 5 cm was found on the left lumbar area. Skin over the swelling was free, surface smooth, edge- well defined, consistency-cystic. Fluctuation test was positive, but transillumination test was negative. Overlying temperature was normal & there was no

tenderness. The swelling moved from side to side but not from above downwards. Examination of blood showed total count to be 9000/cu mm & eosinophil count 5% ESR was 30 mm in 1st hour. Plain x-ray of the KUB region showed a soft tissue shadow in left lumbar area without any calcification. Dorso-lumbar spine- x-ray was done to exclude tuberculosis & was found normal. X-ray chest showed no abnormal opacity & ultrasound of the abdomen showed a multiloculated cystic lesion with some echogenic material within it in the left lumbar region (Figure 1)

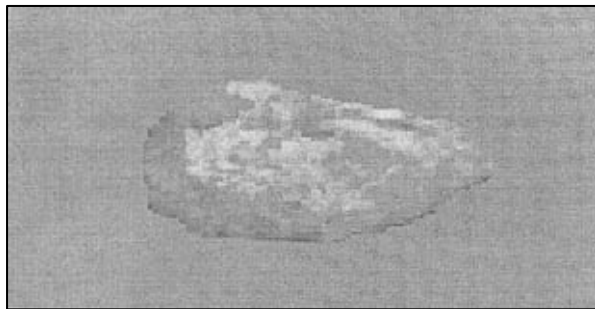


**Fig. 1:** Ultrasonic appearance of a hydatid cyst

Liver, spleen & kidneys were normal. On aspiration the fluid was clear. On the basis of

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clinical findings & investigations a probable diagnosis of hydatid cyst was done. The swelling was explored by a generous incision & a spherical cystic lump of whitish colour was found deep to latissimus dorsi muscle attached to Quadratus lumborum muscle. Aspiration of some fluid was done with injection of scolicedal solution like hypertonic saline with reaspiration. The surrounding area was isolated with packs soaked in hypertonic saline. Very gently the laminated membrane was grasped with a sponge holding forceps & separated from the surrounding with a finger delivering the cyst intact excising small amount of muscle fibers where it was attached. The cavity was washed with hypertonic saline solution & a drain was placed which was removed after 48 hours. On opening the specimen crystal clear fluid & multiple scolices were found inside (Figure 2).



**Fig. 2:** The cyst cut open

On histopathological examination, it was found to be a hydatid Post-operatively, Patient was given albendazole 400 mg 12 hourly for one month & the patient was followed-up for 1 year & there was no recurrence.

### Discussion

The causative organisms of hydatid disease are *Echinococcus granulosus*, *Echinococcus multilocularis* and *Echinococcus oligarthrus*. Among these the most common one is *Echinococcus granulosus*<sup>1,2,3,5</sup>. It is the larval stage of the organism, which affects the man<sup>2,4,5</sup>. Man, sheep, cattle & pig are the intermediate hosts & dog, wolf & jackal are the definitive hosts<sup>2,5</sup>. Although the larval stage of the parasite can thrive in many parts of the body, in 80% of cases, it dose so in the

liver<sup>2,4,5</sup>. Dogs are infected by feeding on offal of infested sheep & cattle. The eggs are discharged with faeces of the definitive hosts. An intermediate host swallows the eggs while grazing in the field, & man shallows the eggs due to intimate handling of infected dogs & also by eating salads. In the duodenum, hexacanth embryos are hatched out. The embryo penetrates through the intestine & enters the tributaries of portal vein. It is carried to the liver & may be arrested there which acts as the first filter. Some embryos may pass the liver, enter the pulmonary circulation & filter out in the lungs (the second filter). A few embryos may enter the systemic circulation & are trapped in various organs. Muscle is one of the rare sites where it may be trapped. The incidence of involvement 2,3,5,6 of various organs & tissues by hydatid disease in descending order is mentioned in Table 1. Such a patient gives long history of a slowly growing cystic lump fixed to muscle.

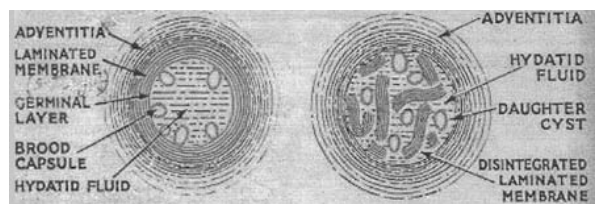
**Table 1:** Incidence of hydatid cyst affecting various organs/tissues

Organs/tissues	Incidence
Liver	60%
Lung	30%
Kidney	2.5%
Heart	2.5%
Spleen	Less than 2%
Brain	
Bone	
Orbit	Only few cases reported
Urinary Bladder	
Spinal extradural space	
Breast	
Submandibular gland	
Thyroid	
Muscle	

### A hydatid cyst consists of three layers (Figure 3)

1. The adventitia (pseudocyst) consisting of fibrous tissue, which is the result of reaction of native tissue to the parasite. It is blended intimately with the surrounding tissue & is inseparable.

- The laminated membrane (ectocyst) formed of the parasite itself, is whitish in colour & elastic & contains hydatid fluid. Unless secondarily infected, it is separated easily from the adventitia.



**Fig. 3:** (a) A typical hydatid cyst, (b) development of daughter cyst

- The only living part of a hydatid cyst a single layer of cells (germinal epithelium) lining the cyst (endo cyst). This secretes internally the hydatid fluid & externally the laminated membrane. Brood capsules develop within the cyst from germinal epithelium attached by pedicles. Within the brood capsules (heads of future worms) develop should the laminated membrane become damaged, it disintegrates & the brood capsules, becoming free, grow into daughter cyst. Occasionally the parasite dies. The fluid is absorbed & the wall calcifies. More commonly, may give various complications like suppuration, rupture into the surrounding e.g. in case of a liver cyst, it may rupture into the peritoneal cavity with development of anaphylactic shock, alimentary canal, pleural cavity etc. It may also cause jaundice if it ruptures into the biliary channel.

Investigations, which help to reach to a diagnosis, are complete blood count (showing eosinophilia), plain X-ray (showing soft tissue shadow, any calcification), ultrasonography of whole abdomen (showing involvement of liver & other organs by the cyst), and ultrasonography of a parietal lump showing multiloculated cystic lesion with echogenic material within it, x-ray chest (showing involvement of lungs). CT scan (showing floating membrane within the cyst), intradermal tests of Casani, serological tests like ELISA test & immunoelectrophoresis. Aspiration of fluid by fine needle is also helpful<sup>7</sup>. Ultimate confirmation of the diagnosis is done by demonstration of parasitic elements in surgical specimen<sup>3</sup>.

The treatment of hydatid cyst is primarily surgical<sup>1,4</sup>, although in the first instance a course of albendazole & mebendazole may be tried. Pre-operative medical treatment is considered to sterilize the cyst, to decrease the tension in the cyst & thus reducing the chance of spillage & resultant anaphylaxis. Now-a-days, in addition to continuing drug therapy with albendazole, for this purpose peri-operative praziquantel is also used. Recently percutaneous treatment with hypertonic saline & alcohol also has been attempted in some centres (PAIR-PD Percutaneous Aspiration, injection Reaspiration- Percutaneous Drainage). Per-operatively, instillation of hypertonic saline (2n), 0.5% cetrimide or 0.5% silver nitrate solution before opening the cavity help to kill the daughter cyst & thus prevents further spread & anaphylactic reactions. The surgical options range from local excision of the cyst or liver resection to deroofting with evacuation of the content. During surgery, the field is isolated by placing packs soaked in hypertonic saline. The residual cavity may be reduced by packing the space with pedicled greater omentum (omentoplasty)<sup>1,5</sup>. Postoperative medical treatment reduces rate<sup>5,8</sup>.

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