

Case Report

Primary hydatidosis of psoas muscle: rare entity

Rajesh G. Chincholkar*, Ram V. Tongale

Department of Surgery, Government Medical College, Akola, Maharashtra, India

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***Correspondence:**

Dr. Rajesh G. Chincholkar,

E-mail: rajchincholkar@gmail.com

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ABSTRACT

Hydatid cyst of the psoas is uncommon to see. We hereby report a case of hydatid cyst of the psoas in a 22 years old female patient presented with pain and swelling in right lumbar region. CECT abdomen revealed hydatid cyst indenting inferior pole of right kidney also indenting adjacent ascending colon and abutting right psoas muscle.

Keywords: Cyst, Hydatid, Psoas

INTRODUCTION

Hydatid disease is zoonotic disease of man. The disease in man caused by tapeworm *Echinococcus granulosus* in its larval or cyst stage. The adult worm is found in dogs and other carnivore. It is found in sheep-raising countries, e.g., Australia, Greece, Latin America, Turkey, Middle East countries. Foci are also known to exist in India where the highest prevalence is reported in Andhra Pradesh and Tamil Nadu than in other parts of the country.¹ Other species being human affected are: *E. multilocularis*, *E. ligartus*, *E. vogeli*, *E. oligarthus*. Dogs are definitive host, sheep are usual intermediate host, but human are an accidental intermediate host.² Most common site for hydatid cyst is liver and second most lung. Some rare locations of the disease are muscle, bones, kidney, brain, spleen. Location in muscular tissue accounts for 2%-3% of cases.³ We report a case of retroperitoneal hydatid cyst presenting as right Lumbar abscess indenting right kidney indenting adjacent ascending colon and abutting right psoas muscle.

CASE REPORT

A 22 years averagely built poor nourished female patient came to our hospital with complaint of swelling of right lumbar region for 3 months. There was no history trauma,

fever. The patient noticed swelling in right lumbar region, which was small initially and gradually increase in size and not increased on coughing nor reduced on lying down. Pain was dull aching which was relieved by analgesics medication.

On clinical examination, patient was in good condition with a swelling measuring 10×10 cm in diameter, soft consistency, smooth surface; with mild tenderness at local parts without local inflammatory signs. Cough impulse and reducibility absent. Laboratory test resulted with; white blood cell: 13100/mm³, hemoglobin: 10.3 gm/dl and other biochemical parameter were normal.

Abdominal ultrasonography showed well defined cystic lesion of the size 7.2×4.7 cm in right retroperitoneal region likely hydatid cyst.

Local ultrasonography showed evidence of well-defined collection with internal echoes noted in right flank in muscular plane measuring 9.9×5.4×4.9 cm (140 cc volume). That collection was communicating with similar collection in muscular plane inferior to the lower pole of right kidney measuring 9.2×5.1×5.4 cm (vol. 135-140 cc). Feature suggestive of psoas abscess herniating to posterior aspect of lumbar region on right side formation (Figure 2).

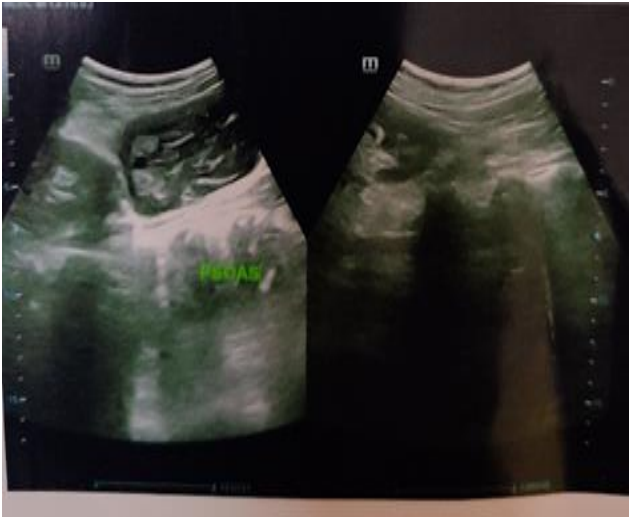


Figure 1: USG abdomen and pelvis.



Figure 2: USG abdomen and pelvis.

Abdominal CECT revealed a well-defined non enhancing cystic unilocular lesion of approximately 8.3 cm craniocaudal, 7.6 cm anteroposterior, 6.2 cm transverse extension was seen along right infrarenal posterior abdominal wall with extension into the intraabdominal retro wall. It showed floating membrane like structure within. No calcification was seen. No daughter like structure seen. The wall was thin.

It was indenting the inferior pole of right kidney. It was also indenting the adjacent ascending colon. It was also abutting the right psoas muscle. No evidence of extension into spinal canal.

Another cystic lesion of approximately 8.6 cm craniocaudal, 5.6 cm anteroposterior, 7.4 cm transverse extension was seen posterosuperior to above mentioned lesion in the posterior subcutaneous tissue of right thoracoabdominal wall. It showed few thick incomplete mildly enhancing septation. No obvious hematoma like structures calcification seen (Figure 3 and 4).

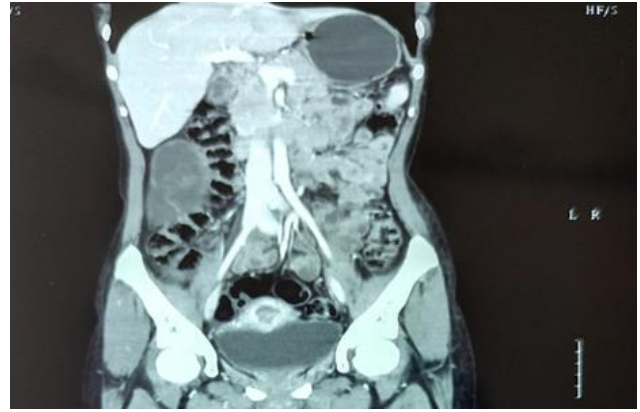


Figure 3: CECT abdomen and pelvis.



Figure 4: CECT abdomen and pelvis.

Treatment for hydatid cyst is surgery. Conservative therapy had significantly higher rates of recurrence and morbidity or increase length of hospital stay. In our case patient was on oral Albendazole. Albendazole reduce the recurrence rate when cyst spillage, partial cyst removal, or biliary rupture has occurred.⁴ In our case complete excision of hydatid cyst of muscle done by right loin incision (posterior subcostal). Retroperitoneal dissection carried out initially. There was intraoperative evidence of pus approximately 100 cc and daughter cyst. Initially pus drained and scolicedal agent cetrimide injected into cavity and suction and evacuation of cyst carried out. Drain was kept for drainage and incision closed in layer (Figure 5).



Figure 5: Intraoperative specimen photo.

DISCUSSION

Hydatid disease is due to infection by tapeworm *Echinococcus granulosus* in its larval or cyst stage. The tapeworm lives in canids, which are infected by eating the viscera of sheep that contain hydatid cysts. Scolices, in the cysts, adhere to the small intestine of dogs and become adult taenia, which attach to the intestinal wall. Each worm sheds approximately 500 ova into the bowel. The infected ova containing feces of dogs contaminate grass and farmland, and the ova are ingested by intermediate hosts such as sheep, cattle, pigs and humans. The ova have chitinous envelopes that are dissolved by gastric juice. The liberated ovum then burrows through the intestinal mucosa and is carried by portal vein to liver, where it develops into an adult cyst. Most cysts are caught in the hepatic sinusoids, therefore 70% of hydatid cysts form in the liver. A few ova pass through the liver and are held up in the pulmonary capillary bed or enter the systemic circulation, forming cysts in the lung, spleen, brain, or bones.⁵ Primary cyst may localize anywhere in the body. Commonly they are found in liver (55-77%) and lungs (20-30%) but cysts may be localized in the spleen or kidneys (2%), brain (1.5%), bone (1%), heart (less than 1%). Location in the muscular tissue accounts for 2-3% of the cases.⁶

The typical hydatid cyst has 3 layers. The outer layer is pericyst representing an adventitial reaction to parasitic infection. The pericyst acts as mechanical support for the hydatid cyst. The middle layer of cyst is ectocyst. It acts as a barrier for bacteria and ultrafilter for protein molecules. The inner layer or endocyst is the germinal membrane, responsible for production of clear hydatid fluid, the ectocyst, brood capsules, scoles, and daughter cyst.⁷

The main symptoms are swelling in the lumbar or flank region with intermittent pain. In case of muscular location, the diagnosis of hydatid disease may be difficult. The swelling inside muscle more commonly indicates presence of hematoma, tumor or septic lesion.

The combination of clinical, radiological, and laboratory findings helps for preliminary diagnosis. Ultrasound is most commonly used worldwide for diagnosis of hydatid cyst because of its availability, affordability, and accuracy. CT scan of the abdomen is more accurate in identifying cyst characteristics like cart wheel like or multivesicular like.

Eosinophilia exists in 20-50% of cases. This is particularly enhanced in case of cracking of the cyst. Sero-immunological reactions enhance the diagnosis. Indirect hemagglutination test is the most sensitive reaction with sensitivity up to 70%.^{8,9}

Ultrasonography reveals rosettes of daughter cysts, double contoured membrane of cyst due to detachment of cyst membrane calcification of cyst wall. According to

finding it is classified as follows known as Gharbi classification.

Table 1: Gharbi classification.¹⁰

Type	Description
Type I	Pure fluid accumulation
Type II	Fluid accumulation with splitted membrane
Type III	Fluid accumulation with septa and /or daughter cysts
Type IV	Heterogenous echo pattern (Hyperechoic with high internal echoes)
Type V	Cyst with calcified thick borders

There is another type classification known as WHO which is as follows:

Table 2: WHO classification.¹¹

Classification		
CE 1	Unilocular simple cysts	Active
CE 2	Multivesicular multiseptated cyst	Active
CE 3	Floating membrane (Water lily sign)	Transitional
CE 4	Heterogeneous degenerative contents	Inactive
CE 5	Thick calcified wall	Inactive

CONCLUSION

Extrahepatic hydatid disease is uncommon to see. It can present with abdominal swelling. Differential diagnosis is hematoma or abscess or tumor. In our case patient presented with right lumbar swelling which was first clinically thought to be lumbar abscess, but it proved to be case of hydatid cyst of right psoas muscle involving inferior pole of right kidney and adjacent ascending colon.

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Ethical approval: Not required

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