

Case Report

A rare case presentation of hydatid cyst in ilio-psoas muscle

Kamlesh Galani, Bhargav Trivedi*, Jaivik Vaghela

Department of General Surgery, C.U. Shah Medical college, Surendranagar, Gujarat, India

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***Correspondence:**

Dr. Bhargav Trivedi,

E-mail: bhargavtrivedi91@rediffmail.com

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ABSTRACT

We report a rare case of hydatid cyst in iliopsoas muscle in 35-year-old male patient. Where, patient presented with pain and swelling in right groin and fixed flexion deformity of right lower limb with constitutional symptoms. CECT abdomen revealed hydatid cyst with daughter cyst. We performed excision by retroperitoneal approach through lumbar incision. Cyst was completely removed with daughter cysts.

Keywords: Hydatid cyst, Iliopsoas cyst, Iliopsoas abscess

INTRODUCTION

Though Hydatid cyst is not an uncommon disorder in our part of country but usually most of the time it remains asymptomatic. It is zoonosis, occurs primarily in sheep grazing areas of the world. It is endemic in Mediterranean countries, middle east, far east, South America, Australia, New Zealand and East Africa.¹ Human contract disease from dogs, and there is no human to human transmission.² It is caused by *Echinococcus granulosus* mainly. Other species affecting human beings are: *Echinococcus multilocularis*, *Echinococcus vogalli*, *Echinococcus oligarthus*.³ Dogs are definitive host of these infections. Sheep is usual intermediate host and humans are accidental intermediate host. Human infection is dead end.⁴

It usually presents most commonly in liver and second most common site is lung other less common sites in descending order include Kidney>brain>bones.⁵ Isolated retroperitoneal location of hydatid cyst has been reported to be very exceptional, even in endemic areas.⁶ Here we will discuss a case where patient presented with primary Hydatid cyst in ilio-psoas muscle which was symptomatic due to secondary infection.

CASE REPORT

A 35 year moderately built moderately nourished Male patient came to our department with history of Right side lower abdomen and right lower back pain with fullness and visible swelling in Right inguinal region for 1 month, and low-grade Fever for last 1 week without any significant past history.

Pain was dull aching continuous and occasionally becomes throbbing which was relieved by analgesics medications. There was mild limping on right side while patient walks. Then patient noticed swelling in right lower abdomen, which was small initially and gradually increased in size and painful on touch but not increased on coughing nor reduced on lying down. Lastly, patient developed fever which was mild in nature and not associated with chills. It was intermittent in nature and relieved by medication for which patient took medications from local practitioner

On clinical examination

Swelling of about 5*2 cm in right iliac fossa, extending from ASIS to mid inguinal point to with cystic

consistency, smooth surface, with moderate tenderness at local part with elevated temperature without cough impulse and reducibility and free from overlying skin. Swelling become more prominent on SLR test and patient had fix flexion deformity of right lower limb.

On Investigation

USG Abdomen and pelvis: Upper Psoas shows 87*45*31mm heterogeneous lesion, mid and lower psoas and iliacus shows 99*85*73mm hypo echoic multicystic area p/o Hydatid causing surrounding inflammation. (Figure 1).



Figure 1: USG of abdomen and pelvis.

CECT abdomen and pelvis

Heterogeneously enhancing well defined, rounded, irregularly marginated solid-cystic lesion without evidence of calcification or haemorrhage within, involving ilio-psoas muscle on right measuring about 7*4.7 cm in size in axial plane with cranio-caudal extension of 9.3 cm. p/o Hydatid cyst more likely than abscess (Figure 2 and 3).



Figure 2: CT scan of abdomen.

Rest of routine blood investigations were within normal limits and no abnormality detected except leucocytosis.



Figure 3: CT scan of pelvis.

Method

Surgery

Complete excision of *Hydatid cyst* from Ilio-Psoas Muscle by retroperitoneal Approach through Right Lumbar incision (Figure 4).

Initially dissection in retro peritoneum is done and psoas muscle identified. Bulge noted in muscle and surrounding area covered with hypertonic saline soaked pad. Incision over muscle put and cyst identified. Complete excision done and pus in the surrounding area drained. After through wash given with cetrimide and hypertonic saline two drains are put for continuous drainage and incision closed layer wise.



Figure 4: Post-operative specimen photo.

RESULTS

Post-operative period was uneventful, and patient kept on injectable antibiotics for 5 days. Drain Removed on post-operative day 5 and 7 respectively. Patient discharged on 7th day with tablet albendazole for 12 weeks. Follow up period of 3 months was uneventful.

DISCUSSION

Hydatid disease is a cystic disease caused most commonly by *Echinococcus granulosus* and 2nd most common organism is *Echinococcus multilocularis*. Humans are accidental host and their life cycle ends in them. There are various stages of its development throughout gastrointestinal tract and it travels through portal circulation so most common location of cyst formation is liver.

Eggs are passed (up to thousands of ova daily) and deposited with dog's feces. It is transmitted to humans by feco-oral route and in human duodenum, parasitic embryo releases an oncosphere, that penetrate mucosa, allowing access to bloodstream. Through blood it reaches to above mentioned sites and developed into larval stage and later mature to become cyst.⁶

Cyst develops after 3 weeks of infection. It would be having 3 layers: - Endocyst- The germinal layer which is inner most layer, Ectocyst- outer gelatinous covering and Pericyst- reactionary layer formed by tissue of surrounding organ. Scoleces develop into adult tapworm in definitive host, while differentiate into new hydatid cyst in intermediate host.⁷ Cyst contain daughter cyst, brude capsule and hydatid fluid which is very allergic. So, care should be taken to prevent allergic reaction during resection. It is equally common in males and females with age around 4th - 5th decade.⁸ Most of the time it remains asymptomatic and produce symptoms only when secondary changes occur among which secondary infection is most common. Other common complication is Rupture of cyst, which lead to spreading of daughter cysts or may lead to anaphylactic reaction.

It is usually diagnosed by ultrasonography and according to findings it is classified as follow, which is called Gharbi Classification (Table 1).

Table 1: Gharbi Classification.⁹

Type	Description
Type 1	Pure clear fluid collection
Type 2	Fluid collection with split wall
Type 3	Fluid collection with Septa
Type 4	Heterogeneous complex mass
Type 5	Calcified Mass

There is another classification which is accepted by WHO which is as follow (Table 2). Diagnosis is confirmed by serological tests including (ELISA, IMMUNOBLOT, ARC-5, IHA) for antibodies.

There are various methods for treatment of this condition, which include mainly PAIR (Puncture, Aspiration of cyst content, Injection of scolical agent and Re-aspiration), pericystectomy, marsupialisation, drainage of cyst,

omentoplasty or partial hepatectomy.¹⁰ Last two can be done for intra-abdominal *Hydatid cyst* only.

Table 2: WHO Classification.⁹

Type	Description
CL	Well circumscribed liquid image with clearly defined wall
CE1	Concentric hyperechogenic halo around cyst (Hydatid Sand)
CE2	Multivesicular cyst with daughter and granddaughter cyst
CE3	Laminated layer with floating membranes (water lily)
CE4	Cystic and Solid component Together with Daughter cyst
CE5	Amorphous mass with solid appearance

Currently PAIR is the preferred method of Treatment for anatomically and surgically appropriate lesions. Efficacy of PAIR in managing *Hydatid cyst* is >75%. During PAIR patient is given prophylactic coverage of Albendazole. Various Scolical Agent used are Hypertonic (20%) Saline, 0.5% cetrime with 0.05% chlorhexidine, Absolute Alcohol etc. Among them 20% alcohol is having is having 100% scolical effect with contact time of 6 minutes.

Surgery remains treatment of choice where PAIR is not possible, or cysts are refractory to PAIR or for complicated cyst e.g. Communicating with biliary tract. Pericystectomy is preferred approach.

Another method is chemotherapy with Albendazole or Mebendazole which is effective at shrinking the cyst. However, cyst disappear in fewer than 50% of patients. Pre-operative chemotherapy may decrease the risk of spillage and is a safe practice. Chemotherapy only is definitive treatment in cases where there is widely disseminated disease or patient with poor surgical risk.

After Surgery there may remain empty cavity which can be manage by various methods which includes, External Tube drainage, Capsulorrhaphy, Capitonnage, Myoplasty, Omentoplasty, Internal collapse, Introflexion, Marsupialization or combination of these methods.

CONCLUSION

Usually most common site of *Hydatid cyst* is Liver, and second most common is lung. However, *Hydatid cyst* in Ilio-Psoas muscle is very rare and its incidence is only 1-3% from its total cases. The case was first clinically thought to be of psoas abscess, but it turned out as *Hydatid cyst* in iliopsoas muscle.

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