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An Unusual Presentation of Intra Abdominal Hydatid Cyst-A Case Series of 3 Patients

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ABSTRACT
Background: Hydatid disease (HD) is a common parasitic disease which is caused by larva1 stage of EchinococcusGranulosus.It has various mode of presentation with world wide distribution.it can involve any part of the human body but commonly involves liver and lungs and rarely the brain, heart and other organs.Inabdomen,Itprimarily affects the liver but may involve retroperitoneum. Radio Imaging modalities ultrasonography (USG),computed tomography (CT) and magnetic resonance imaging (MRI) are highly accurate in detecting hepatic hydatid cyst. It is usually treated by surgical excision with medication iflesion is large and prominent or can be treated conservatively with medicine as albendazole if lesion small and detected early or medicine with percutaneous aspiration if lesion is small to moderate in size. This case series include 3 patients who presented to us with ultra sonography done in other hospital. Out of these, two were diagnosed with retroperitoneal hydatid cyst and third one had giant liver hydatid cyst. All these patients were diagnosed based on clinical presentation,radiologicalcorelation and serology confirmation. All three patients were given albendazole pre and postoperatively. All these patients underwent surgery with deroofing of the cyst and evacuation of the entire hydatid fluid laminated membrane and multiple daughter cysts.Follow up was done for 6 months for all patients and it showed no evidence of recurrence.

Key Words:Hydatid cyst, Liver, Retroperitoneum

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I. INTRODUCTION:

Hydatid cyst is a zoonotic disease, caused by EchinococcusGranulosus with worldwide distribution due to the close associations among sheep, dogs, and humans. here is no human to human transmission. It can occur almost anywhere in the body with a variety of imaging features, which may change according to the growth stage, associated complications, and affected tissues. They are mostly asymptomatic until complication occurs. A definitive diagnosis requires a combination of imaging and serology

It usually affects the liver (60-70%) and the lung (20-30%), but can develop anywhere in the body (5-10%) including the spleen, pancreas, kidney, peritoneum, retro-peritoneum, soft tissue, breast and central nervous system[1].A retroperitoneal hydatid cyst is extremely rare and its diagnosis can be challenging, particularly in the early stage as it can mimic several regional pathologies like pancreatic pseudocyst, mesenteric cyst, and other retroperitoneal cystic lesions[2].

This study aims to present 2 cases of huge retroperitoneal cyst with multiloculation and case of giant liver hydatid cyst.

II. CASE REPORT

CASE: 1

A 32 years old male patient presented to our hospital with a chief complaint of lump in the right flank region since 4 years which is insidious in onset and gradually progressive in size. Patient had history of shoulder arthrodesis and was treated for same 8 years back. During examination, abdominal budge was found in right lumbar region approaching toward right iliac region. Serum Echinococcus (hydatid cyst) IgG was positive with a value of 20.2 NTU and all other laboratory investigations were within normal range. On abdominal ultrasound imaging, an 8 x 5 cm cystic cavity was found in the retroperitoneum area with a hyperechogenic membrane and clear fluid suggesting a hydatid cyst. Computed tomography showed two large retroperitoneal hydatid cysts in right side of retroperitoneum 1) medial hydatid cyst measuring 9.3 X 5.4 cm in the right flank which was displacing the right kidney supero-postero-laterally, the right mid ureter medially and abutting the right psoas muscle. 2) Lateral hydatid cyst measuring 9.6 X 6.1 cm causing mass effect in the form of displacement of distal ileum and transverse colon anteriorly and abutting the right lateral abdominal wall. The patient was given albendazole for a month before surgery. Patient underwent surgery with flank incision given on right side of abdomen. It was observed that the right retroperitoneal cystic mass was bulging from the retroperitoneum and was surrounded by the mesentery of the small intestine. The cyst was carefully freed from surrounding structures and the mass was punctured with a syringe after safeguarding the surrounding organs with the povidine iodine and hypertonic saline soaked mops. On puncture, approx. 200 ml dark yellow fluid was aspirated and the same amount of scolicidal agent was infused in cavity. Cyst was opened and deroofed. The laminated membrane removed along with the multiple daughter cyst as shown in the picture. Posteriorly an opening was seen which was communicating with other cyst, finger was inserted and the laminated membrane and daughter cyst were removed from it. Histopathology confirmed the diagnosis of hydatid disease Patient received albendazole treatment for 3 months after surgery. Follow up after 6 months showed no evidence of recurrence and patient was satisfied with the results.

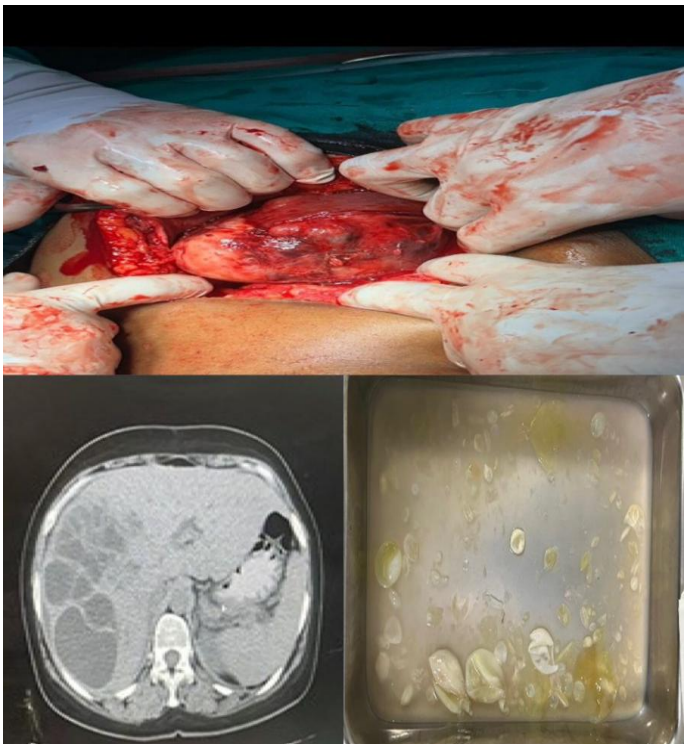
CASE: 2

A 35 years old female patient presented to our hospital with a chief complaint of mass in right upper abdomen region since 6 months with no complaints of fever and abdominal pain. Serum Echinococcus (hydatid cyst) IgG was positive with a value of 39.3 NTU. Physical examination revealed a painless cystic swelling present over right hypochondrium and finger insinuation was not possible and the swelling was moving with respiration. On abdomen ultrasound imaging, a cystic lesion 16.8 X 7.8 cm on right lobe of liver in segment v, vi, and vii with cholelithiasis (multiple hyperechoic largest measuring 3mm in the lumen of gall bladder) with Gb sludge. Magnetic resonance imaging demonstrated liver is enlarged in size and measures -19.8 cm, the right lobe of liver in segment v, vi and vii is entirely replaced by a large well defined variable size and shape multilocular T2 hyperintense cystic lesion, the cyst measure approx. 17.5 x 8.8 x 9.9 cm in size and shows crenated wall in some region and smooth walls in other region. The lesion is significantly compressing the fundus of gall bladder, hepatic flexure of colon inferiorly and posteriorly it is compressing the right kidney with no abnormality of biliary tree with cholelithiasis with Gb sludge. The patient was given albendazole before surgery and was explored with right Kocher incision. Huge large cystic mass was visible in the right lobe of liver, without any adhesion to the kidney, right colon, mesentery or major blood vessels and bile duct and hepatic duct. With all safety measures the cyst was opened and fluid evacuated and around 200 ml scolicidal agent was infused. After sometime entire cyst was deroofed, laminated membrane and daughter cyst was removed. On further exploration, bile was seen coming from deep posterior part of cyst. biliary cyst

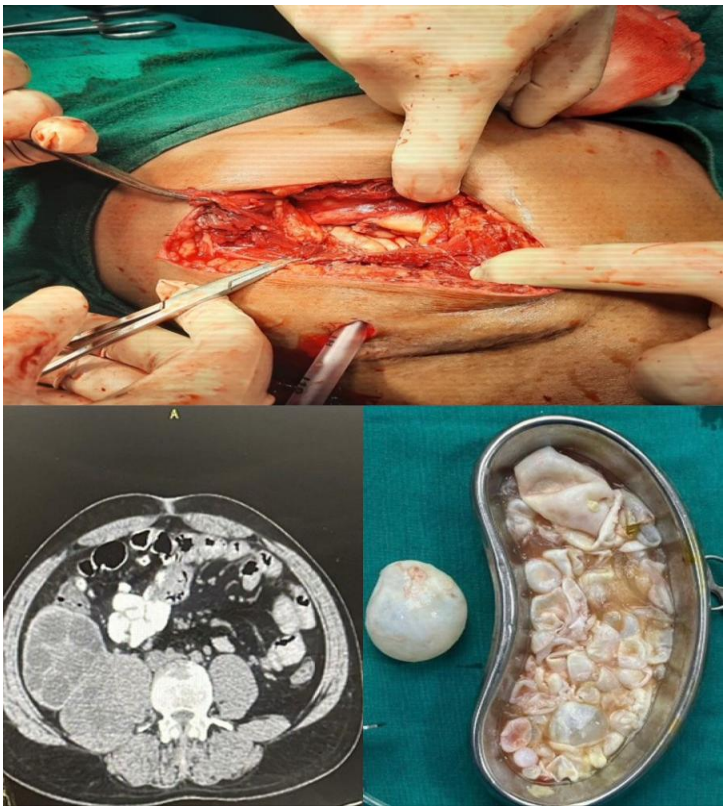
communication could not be confirmed, hence not ligated. However omentoplasty was done and drain was left in cavity. Another drain was left in subhepatic space and the same was removed after 12 days whereas cavity drain was left for a month. when the bile leak reduce to 10 ml, it was removed on 30th day Histopathology confirmed the diagnosis of hydatid disease. At 6 months follow-up, the patient remained symptom-free with no radiological evidence of recurrence and no fluid collection on abdomen ultrasonography

CASE: 3

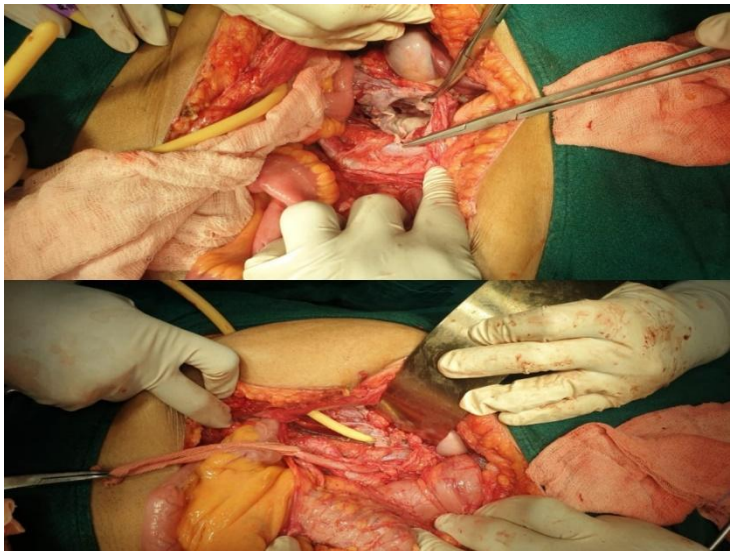
A 72 years female patient presented to our hospital with a chief complaint of lump in right iliac fossa since 1 year which is insidious in onset and gradually progressive in size. she had a history of weight loss and loss of appetite. During examination, 14 cm x 6 cm lump palpable in right iliac fossa which was cystic in consistency ,ill defined margin , non tender, non mobile, did not move with respiration . Serum Echinococcus (hydatid cyst) IgG was positive with a value of 24.1 NTU. On abdominal ultrasound imaging show 17x 7 cm cystic cavity was found in retroperitoneum area suggesting of hydatid cyst with gross hepatomegaly. On computed tomography showed multiple varying size multiloculated and multiseptated cystic lesions seen involving the right hypochondrium region and is extending to right iliac region. There was displacement of right kidney superiorly and bowel loops appeared to be pushed by the lesion measuring approximately 18 X 7.5 X 17 cm in size with minimal wall calcification suggestive of hydatid cyst in right retroperitoneal region. Patient was prescribed albendazole before surgery. Exploratory laparotomy was done with deroofing of the cyst wall and daughter cysts and laminated membrane were removed. Histopathology confirmed the diagnosis of hydatid disease. The patient was discharged on the 11th post-operative day on anthelmintic medication. At 6 months follow-up, the patient remained symptom-free with no radiological evidence of recurrence.



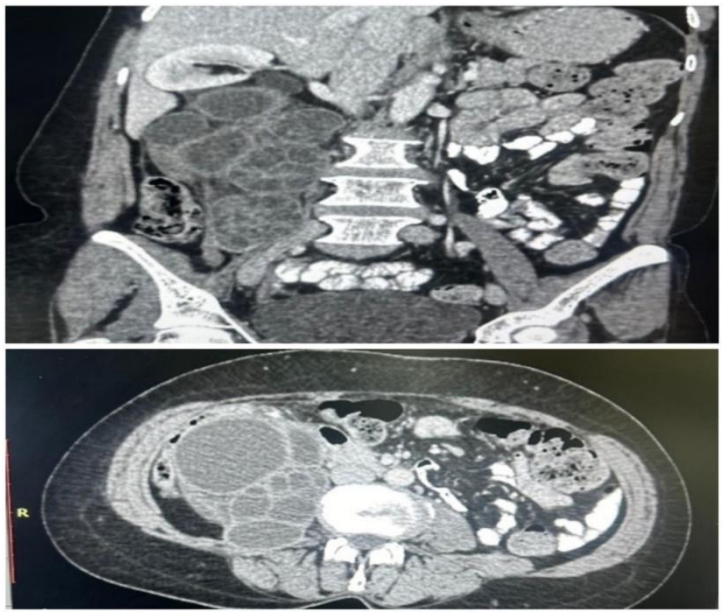
Pic:2 Operative,CtScan,Multiple cyst & Daughter cysts of Patient no 2 with hydatid cyst in Rt Lobe of Liver



Pic:1 Operative,CtScan,Multiple cyst & Daughter cysts of Patient no 1 with hydatid cyst in RtRetroperitoneum



Pic:3 During OT Hydatid cyst & Daughter cysts of Patient no 3 in Rt Iliac fossa &Retroperitoneum



Pic:4 Ct scan of pt no 3 of Hydatid cyst & Daughter cysts in Rt Iliac fossa &Retroperitoneum

III. DISCUSSION

Hydatid disease (Echinococcusgranulosus) is endemic in middle east as well as other parts of world, include India, Africa, South America, New Zealand, Australia, Turkey and Southern Europe[3-5]. Although hydatid cysts are known commonly to affect the liver and lung. Cyst typically increase in diameter at a rate of 1 to 5 cm per year, which may result in the appearance of new symptoms over time[4]

In our series, there are 2 cases of retroperitoneal hydatid cyst . It is usually the result of spontaneous, traumatic, or surgical rupture of a hepatic cyst. Primary retroperitoneal Hydatid cyst without any other organ involvement is very rare[5].In our two cases, we could not establish any evidence of rupture from any organ. hence possible diagnosis of primary retroperitoneal hydatid cyst can be made. This type of hydatid cyst was first reported by Lockhart and Sapinza in 1958. The incidence of primary retroperitoneal hydatid cyst is 0.5-2%[6].

The differential diagnosis of retroperitoneal cysts includes cystic lymphangioma, ovarian neoplasm, teratoma, retroperitoneal abscesses, soft tissue tumors, embryonal cysts and other cystic and necrotic tumors. There are no specific local or general symptoms and signs of hydatid disease. Inourcaseseries,Two retroperitoneal hydatid cysts present as retroperitoneal lump attach to ureter . Solitary abdominal parietal wall hydatid cyst has been reported but is very rare finding with only 5 cases reported till now [8]

One of our case was of giant hepatic hydatid cyst. The clinical manifestations of hepatic Hydatid disease depend on the site, size and stage of development of the cyst [7].Hydatid cysts of the liver are often asymptomatic and often represent an incidental finding on medical imaging; however, manifestations may occur due to cyst expansion, leading to hepatomegaly or inflammatory reactions of the host [9]The principal complications are hydatid cyst infection, biliary duct fistula, and rupture into the peritoneum or chest [9]. Hydatid cysts of the liver should be considered in the differential diagnosis, as they can mimic many cystic and even solid lesions of the liver, such as simple liver cysts, choledochal cysts, Caroli's disease, hemangioendotheliomas, mesenchymal hamartomas, and teratomas[10]

The sensitivity of IgG antibody by ELISA and indirect hemagglutination test are 95% and 87.5% respectively. In our case series, Serum Echinococcus (hydatid cyst) IgG were positive in all 3 cases with a value of 20.2 NTU,39.3 NTU and 24.1 NTU respectively. In this case series as well as others, USG and CT scans were most helpful investigation to make Preoperative diagnosis[11].

Magnetic resonance imaging (MRI)and MRCP has a great value in diagnosing and determining the anatomic extent and relationship of cyst in hepatic hydatid cyst.

Treatment of hydatid cysts is mainly surgical. However before and after operation, 1 month course of Albendazole and 2 weeks Praziquantel should be given in order to sterile the cyst, decrease the incidence of anaphylaxis, decrease the tension in cyst wall and decrease the risk of spillage during surgery[3,12]. Intraoperatively, a scolicidal agent (hypertonic saline 3% and povidine iodine 10%) was used in our all 3 cases before opening the cavities, lead to kill the daughter cysts and therefore prevent spread or anaphylactic reaction. The recurrence rate of this disease is relatively high accounting for about 10 % [13] but in our cases series, there is

no recurrence after 6 months. In our case series , various surgical approach (flank incision, kocher incision and mid line laparotomy incision respectively) were used in various abdominal hydatid disease. In all 3 cases, we have done deroofing and removal of laminated membrane along with daughter cyst

IV. CONCLUSIONS

We conclude in our series of 3 cases , that in any cystic neoplasm of abdomen, there should be high suspicious of hydatid disease even in cyst which is located in the retroperitoneum region and treatment of choice is surgical (enucleation of cyst with deroofing and removal of daughter cyst) which should be followed by medical management to prevent recurrence.

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