Original Article

Hydatid Disease of the Abdomen

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Objective: The aim of this study was to evaluate the different presentation of hydatid cyst and the results of surgery in this locality.

Study design: Case series of 25 Patients.

Place and duration of Study: Department of General Surgery D.H.Q.Hospital Bannu NWFP Pakistan from Jan 2004 to Dec 2004.

Materials and Methods: All those patients who were diagnosed as Hydatid Cyst in abdominal organs clinically and by ultrasonography, and confirmed by exploration of abdomen. The median follow up was 4years.

Results: A total of 25 patients were managed surgically during the study period. The mean age of patients was 35 years and male to female ratio was 2—01. 22 patients (88 %) had hydatid cyst in the Liver. One patient (04 %) had a hydatid cyst in the omentum, One patient had cyst in the broad ligament (04 %).One patient had cyst in the spleen (04 %). All Patients underwent exploratory laparotomy. Postoperative complications were noted in 04 patients (16 %). Mortality was (0%).

Conclusions: Present study suggests that Hydatid cyst can present in any organ of abdomen and the treatment of this disease is surgical exploration followed by post operative anthelmentic medication. Though the study was conducted in a periphery hospital but the results are comparable to the tertiary hospitals.

Key Words: Hydatid disease, Presentation, Outcome.

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Introduction

Hydatidosis is a parasitic disease caused by Echinococcus granulosis .The adult form of the parasite is not seen in humans. Its larvae induce the disease in humans, cows, sheeps and domestic animals. E.granulosis is a small (3-5 mm long) tape worm, that resides in the jejunum of dog (definitive host) and other canines .That produce eggs. The definitive host may be infected with thousand of worms.[1, 2]

Humans become infected by ingesting eggs of the adult tape worm which have been passed in dog foeces. The eggs hatch in the small bowel, penetrate the gut mucosa and enter the blood stream, from which they are distributed to various sites in the body, where the larvae settle, they begin development to form hydatid cysts.[3]

Hydatid cysts are found most commonly in the liver (52-77%), lung (8.5-44%), abdominal cavity (8%), Kidney (7%) Central Nervous System (0.2-2.4%), bone (1-2.5%), spleen 2.5% and muscle 5%.[1,4-6]

The clinical presentation of hydatid disease depends on the size and site of the lesion and the accessibility of the organ involved. Pre operative diagnosis of hydatid cysts can be made ultrasonically and confirmed by CT scan. MRI is also of considerable value in cases of intracranial hydatidosis. Different serological tests are also available as hydatid immuno electrophoresis, enzyme-linked immunosorbent assay (ELISA), latex agglutination and indirect haemagglutination (IHA) test.[7]

Medical treatment of H. cyst is mebendazole in a dose of 40-50 mg/kg/day, or albendazole 10-15 mg/kg/day. Both mebendazole and albendazole act against the germinal membrane of hydatid cyst. Praziquantil is more active against protoscoleces. The dose of Proziquantil is 40 mg/kg/day. There is no consensus on the appropriate drug regimen. Some advocate albendazole up to 1 year. But medical treatment of hydatid cyst is unreliable.

The surgical procedures for hydatid disease are;

1. Procedures for liver H.cyst are[4]

CT or Ultrasound guided PAIR.
Laparoscopic cystotomy, deroofing and omentoplasty.
Partial resection.
Marsupialisation and tube drainage or Omentoplasty.
Radical surgical resection (total cystopericestectomy) .
Partial Hepatectomy.

2.Surgical Procedures for Lung H. Cyst are.[8]

Aspiration
Cryogenic technique.
Segmental resection.
Cyst Enucleation.

Pericystectomy.

Lobectomy.

Renal cyst are treated by cystectomy and marsupialisation or by nephrectomy depending on the nature of individual case.[9]

4.Splenic cyst:-

Splenectomy is the treatment of choice.[10-12]

Muscle cyst: - Radical surgery is preferred.

Brain cyst: - Brain cysts are removed by Dowlings technique.

5.Bone cyst: Hydatid cyst of long bone can be treated by wide resection, prosthetic replacement.

Materials and Methods

25 patients of Hydatid cyst including male and female were treated in surgical unit D.H.Q Hospital Bannu during the period Jan 2004—Dec 2004. All these 25 patients were belonging to the same nearby areas of Bannu.

The most common complaints were dull pain in the upper abdomen and a palpable mass was present in ten patients along with Hepatomegaly .One Patient presented with acute abdomen due to ruptured liver hydatid cyst. All these patients were treated by albendazole by Physicians /GPs but had no relief.

All these 25 patients were treated surgically. Evacuation of the cyst with omentoplasty or Evacuation with drainage was done for the Liver hydatid cyst depending on the site of the cyst. Excision of the cyst was done for the cyst in omentum and broad ligament. Splenectomy was done for the H.Cyst in the spleen.

Preoperatively the liver cyst was aspirated, hypertonic saline was injected and the field was isolated by hypertonic soaked packs. The mean hospital stay was about 10 days all the patients were given tablet albendazole 10mg/kg/day for four weeks postoperatively. Follow up of these patients were performed at 03 months interval including history, physical examination and ultrasound of the abdomen. The mean follow up was 04 years.

Results

The hydatid cysts were located as:-

(**1**). 22 Patients had cyst in the Liver.[14] out of these had cyst in right lobe (66.6%), 5 had cyst in the left lobe (22.7%) and 3 patients presented with H.Cyst in both the right and left lobes (12%). One of these had a recurrent H.cyst and one had a ruptured liver H.cyst.

(**2**) One patient had a solitary H.cyst in the Omentum(04%).

(**3)** One patient presented with a cyst in the broad ligament, a cyst in the Liver and a

Cyst in the omentum.(Multiple H.cyst (04 %).

One patient had a cyst in the spleen (04 %).

The complications noted were:-

One patient developed recurrence of the H.Cyst (4%). One patient developed wound infection (4%).

One patient with cyst in the pelvis developed urinary fistula (4%)

One patient had bile leak for a month and then stopped. So the drain was removed.

Discussion

Hydatid disease remains a continuous health problem in endemic countries.

Although the disease is asymptomatic for many years because of slow growth of the cyst. It is progressive, may cause life threatening complications and has the tendency to recur.

Liver is the most common site involved by hydatid cyst. The treatment of both primary and recurrent hydatid disease is mainly surgical as anti helmentic chemotherapy alone has failed in many cases.[12]

The right lobe is affected in 75% and the left lobe in 25% in the literature. In our study the involvement of right and left lobe was 66.6%: 22.7%.The surgical techniques are cystectomy, evacuation of the parasites, pericystectomy and hepatectomy. Evacuation of the cyst is the common operation done The residual cavity is packed with omentum or left open .All the twenty two patients in our study underwent evacuation with drainage or evacuation of the cyst with omentoplasty. Only one patient was having bile leak through the subhepatic drain. (Biliary fistula). Patient was discharged home along with drain and the fistula healed in 30days so the drain was removed. In the study Ahmet A et al[12] the ratio of biliary fistula was about 3.3 % (Ten Patients out of 304 developed biliary fistula.

The cyst may also rupture into in the bile ducts and release daughter cyst resulting in biliary colic and jaundice.[6] In our study one patient presented with ruptured liver cyst into the peritoneal cavity (04 %). In the study of Ahmet A et al[12] 03 patient out of 304 presented with ruptured cyst of liver (1%).

One patient presented with recurrent liver cyst (4%). The study done by Tsaroucha Ak et al[5] the recurrence rate was 6.7%.while in another study the recurrence was 4.5%.[13]

Recurrence after surgery has reported to be 2.2-22%.[2] Recurrence is due to spillage of hydatid fluid containing daughter cyst during operation or incomplete resection of the cyst.[14]

Rupture of the hydatid cyst is stated to be associated with anaphylaxis.[15,16] but luckily our old patient was quite stable and after 4 years follow up there was no recurrence in this patient . In the study of S Abdullah et al[17] the ruptured cyst patient went into shock.

One patient developed urinary fistula that was due to complete excision of the pelvic cyst attached with urinary bladder but the fistula slowly healed.

Multiple organs involvement is also seen in many studies.[17] and so is seen in one case in our study. So if once a cyst is detected in one organ, one has to search and rule out other organs of involvement specially lung. In a study conducted by ketan et al.[18] H. cysts were found in liver, gall bladder kidney, spleen, omentum and mesentry of the small and large intestine. In another study multiple organs involvement was 3.8 %.[19]

Splenic hydatid cyst is rare and reported to be 2.3-5%.[10] and the treatment is splenectomy [20]

There was no mortality in our study. But the mortality in the study of Tscharocha et al was 1.5 %.[5]

The outcome of surgery for hydatid cyst in children is also excellent.[21]

Conclusion

The study suggest that H. cyst can be present in any organ and the treatment of this disease should be less radical surgical technique combined with post operative anthelmentic administration **.**

The surgical treatment should be combined with careful use of scolicidal fluids and aspiration of the cyst to avoid contamination and minimize the risk of recurrence.

Medical treatment with benzimidazole is not curative, but should be used to prevent the spread and recurrence of the disease. Though the study is limited one and done in a periphery hospital but the results are comparable to those of tertiary care hospitals.

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