

Review of 150 case of Hepatic Hydatid Cyst

*Amer hashim hassan , **Raafat R. Ahmed

Back ground:

Hydatid disease is a zoonotic infection⁸, that has a world wide distribution, it endemic in many cattle raising regions of the Mediterranean, Middle East (including IRAQ),^{9,10} Far East , South America, Australia & certain areas of North America⁸.

purpose:

comprehensive review of 150 Iraqi patients with hepatic hydatid cysts & to compare the results with that of IRAQ & surrounding countries similar studies.

methods:

This study was based on data collected from 150 patients, admitted to the gastroenterology & Hepatology teaching hospital in Baghdad with one or more hepatic hydatid cyst .. Each patient was evaluated by history, clinical examination & investigated by complete blood picture, Liver function test, abdominal ultrasound & Chest X ray. CT scan of the abdomen, MRI, MRCP, Esophagogastroduodenoscopy, ERCP, were done for some of the patients. **Gharbi CLASSIFICATION:** was used to categorize the hydatid cysts into 5 types. Endocystectomy was the way to deal with the cyst in 56.6% of the cases .CBD was explored in 10% of the cases, while ERCP was done in 44% of the cases to deal with CBD obstruction. In 52% of the patients, operation was done once for the patient. The residual cavity was dealt with, in most of the patients by either leaving a drain beside the cyst (in 32% of the patients), or by external drainage (in 28.6% of the patients).

Results:

There were 74 males & 76 females ,The mean age of the patients was 38.9 year (the age range is from 3 to 85 years).7 patients (4.7%) were a symptomatic, & were accidentally discovered to

have abdominal hepatic hydatid disease, While 143(95.3%) were symptomatic. Upper abdominal pain was the most common presenting symptom, in 74% of the patients. Most of the cysts were in segment 7 (23.5%) & in segment 8 (21.5%).Most of the patients got just one cyst in their liver (58%). Most of the cysts were type 3, (in 22.3 %) & type 4 (22.3 %) according to gharbi classification. In 27.4% of the patients the cysts were ruptured to the biliary tree at the time of diagnosis. In 52.5% of the patients the liver was involved alone by the hydatid cyst. The patients with the cysts were treated either by medical treatment alone, interventional therapy, surgery alone, or with more than one of the mentioned treatment modalities. Recurrence was recorded in 20% of the cases, & the cysts were infected in 72% of the cases.4 patients died, (2.6%). & the causes were all related to the late presentation & complications.

Conclusions:

most of our patients are young, & mostly presented with up abdominal pain. Liver is the most common organ to be involved in peritoneal cavity. Segment 7 & 8 are the most commonly involved segments. Cysts were mostly of type 3 & 4 according to gharbi classification. cysts are ruptured into the biliary tree in 27.4% of the cases. Most of the cases are diagnosed very late, & are usually presented with complication especially rupture into the billiary tree, or infection, which leads to high morbidity & mortality.

Introduction

History:

Hydatid disease is one of the oldest diseases known to man, according to saidi, it was first described in the **TALMUD** as a bladder full of water¹.

* [FICMS(GE & HEP). CABS. MB ChB]

** F.I.C.M. (digestive surgery) C.A.B.S, F.I.CM/S*/ Gastroenterology & hepatology teaching hospital

It is clear, that human cystic disease was already known to **Hippocrates** (460-379 B.C) & **Galen**². Al Razi in his book (al -Hawi), described the **disease of hydatid cyst**².

Causative agents

1. echinococcus granulosis
2. echinococcus . multilocularis
3. echinococcus. Vogeli
4. echinococcus. Oligarthus .

Aim of the study:

Comprehensive review of **150 Iraqi patients with hepatic hydatid cysts:**

PATIENTS & METHOD:

150 cases of hepatic hydatosis were studied in Gastroenterology & Hepatology Teaching Hospital in Baghdad, IRAQ, in the period from March 1998 to Dec. 2004.

All the cases were referred to the hospital (tertiary centre), from private clinics, public & private hospitals, from most of the Iraqi's governorates.

All patients were evaluated by history, clinical examination & investigated by the following:

Complete blood picture & ESR, Liver function test, abdominal ultrasound & chest X ray.

Plain X ray of the abdomen, CT scan of the abdomen, MRI, MRCP, Esophagogastroduodenoscopy, ERCP, were done for some of the patients.

Endoscopic ultrasound, Colonoscopy, Fine needle aspirate under ultrasound guide, were done for few number of patients.

GHARBI CLASSIFICATION:³⁷ was used to categorize the hydatid cysts into 5 types.

The patients with the cysts were treated either by medical treatment alone, interventional therapy, surgery alone, or with more than one of the mentioned treatment modalities.

The recurrence rate, & concomitant, infestation of the lung ,morbidity & mortality were studied, in details.

As the scolicalid agents are not used in all of the cases, & when it is used, it is not the same type, no thing will be mentioned about scolicalid agents, in this study.

Results:

74 (49.33%) were **males**, & 76(50.66%) cases were **females** the ratio is as the following (♂: ♀ 1:1.02). The mean age was 38.9 year (the age range is from 3 to 85 years).The peak **age** incidence encountered was at 20-39 years.

7 patients (4.7%) were **a symptomatic**, & where accidentally discovered to have abdominal hepatic hydatid disease, While 143(95.3%) were symptomatic.

The most common presenting sign & symptom in our study are the following:

Abdominal pain in 111 patients (74%), cholestatic jaundice in 23 patients (15.3%), abdominal mass in 9 patients (6%).some times the patient may present with more than one of these signs & symptoms.

The location of the cysts in liver segment were as the following: in segment 1; 8 cysts (3.1 %), in segment 2; 6 cysts(2.3%), in segment 3; 12 cysts (4.7%), in segment 4; 32 cysts (12.5%), so in the left lobe of the liver there are 58 cysts (22.6%), in **segment 5 ;49 cysts (19.2%)**, in segment 6; 33 cysts (12.9%), in **segment 7; 60 cysts (23%)**, in **segment 8 ; 55 cysts (21.5%)**, so in the right lobe of the liver there are 197 cysts (88.1%). The number of the cysts in each patient was as the following: **One cyst in 87 patients (58 %)**, Two cysts in 30 patients (20%), Three cysts in 17 patients (11.3 %), Four cysts in 2 patients (1.3%), Five cysts in in 2 patients (1.3%), Multiple cysts (6-12) in 12 patients (8%),so the total number of the cysts were 255 cysts. Gharbi classification: in our patients was as the followings: Type 1 in 49 patient (25%), Type 2 in 16 patients (8.1%), Type 3 in 57 patients (29.08 %) type 4 in 57 patients (29.08 %), Type 5 in 17 patients (8.6%), so the total number of the classified cysts were 196 cysts, 59 cysts were unclassified. Patient's distribution according to the size of the cyst was as the following :< 5 cm in 57 patients (30.3%) these are usually treated medically; 5-15 cm in 24 patients (12.7%); > 15 cm in 107 patients (57%) these are liable to rupture, so the total number of classified cysts were 188 , unclassified cysts were 67 cysts. Relation of the cysts with biliary tree: no communication between the cyst & the biliary tree in 68 patients (45.3%), cysts pressing on the biliary tree in 12 patients (8%), **cysts ruptured into the biliary tree in 70% (46%)** , so the total number of classified cysts 150 cysts, unclassified cysts were 105 cysts. Number of operation done for each patient were as follows: **One operation in 78 patients (66%)**; Two operations in 24 patients (20.5%); Three operations in 10 patients

operations in 1 patient (0.85 %), the total number of patients operated upon were 117 patients.

The site of the cyst intra & extra peritoneally & in the extra abdominal organs: were as the following: in **134 patients (89.3%) the cysts were in the liver only**; in 7 patients (4.6%) the cysts were in the liver & peritoneal cavity ; in 4 patients (2.6%) the cysts were in in the liver & in the lung; in 2 patients (1.3%) the cysts were in the liver , spleen & peritoneal cavity, in 1 patient (0.6%) the cysts were present in the liver,spleen& lung; in other 1 patient (0.6%) the cysts were present in the liver ,lung& peritoneal cavity; in other 1patient (0.6%) the cysts were present in the liver , lung, spleen& the peritoneal cavity, the total number of classified cysts were 150 cysts, the unclassified cysts were 105 cysts 7 the total number of cysts were 255 cysts.Dealing with the residual cavity: we dealt with the residual cavity by : marsipulization in 17 patients (12.5%); by obliteration in 1 patient (0.74%) ; by omentoplasty in 26 patients (19.25%) ; **by external drainage in 43 patients (31.8%), by drain beside the cyst in 48 patients (35.5%)**, the total of cysts dealt with surgically were 135 cysts, no internal drainage was done . Recurrence & concomittent infestation : was noticed in **the liver & peritoneal cavity in 30 patients (20%)**, & in the lung in 5 patients (3.33%),the total number of recurrence was in 35 patients (23.33%).The cysts were infected in 108 patients(72%), they were not in 42 patients (28%), the rest of the cysts were unclassified. The surgical procedures that had been done to the patients were as the followings:**Endocystectomy in 85 patients (82.5%)**,pericystectomyin 12 patients (11.6%), liver resection in 1 patient (0.9%), others (e.g: leave a drain, biopsy) in 5 patients (4.85%), the totalnumber of cysts dealt with surgically were 103 patients.

Interventional therapy other than surgery or with surgery were as the followings: ERCP (total) in 66 patients (44%); ERCP (sphinctrotomy& balloon extraction) in53 patients (35.3%); ERCP(diagnostic) in 4patients (2.6%), ERCP (failure to cannulation) in7 patients (4.6%), ERCP (stent)in 1 patient (0.6%), ERCP (nasobiliary)in 1 patient(0.6%) , PTCD(percutaneous transhepatic cholangio drainage) in 2 patients (1.3 %), OGD (oesophageo-gastro-

duodenoscopy with sclerotherapy) in 1 patient (0.6%),& the total number of patients who underwent interventional therapy were 69 patients (46%). Eosinophil count were noticed in the patients as the followings:< 500 c/mm³ in 67 patients (73.6%); 500-1000 c/mm³ in 16 patients (17.5%);1000-1500 c/mm³ in 3 patients (3.2%), >1500 c/mm³ in 5 patients (5.4%). Causes of death:4 patients(2.6%)died during the period of study & the causes were as the followings 1 patient(0.66%) died because of acute renal failure,other one(0.66%) died because of bleeding from sphinctrotomy, the third one (0.66%) died because of hematemesis & melena (portal hypertension),the last one (0.66%)died because of multiple organ failure syndrome .

Discussion :

Hydatid disease is a world wide health problem as a result of increased travel & emigration²¹, It is endemic in IRAQ & most countries of the Middle East.⁹

It is a major economic & public health problem in causing a great morbidity & mortality, which is attributed in most of the cases, to cyst complications^{22,23}.

In a recent official record on the incidence of hydatid disease in 15 out of 18 provinces in IRAQ, 5199 new cases were reported between 1989-2000⁹.

Hydatid disease is the most common cause of liver cyst in the world²¹.

No age is immune to hydatid disease & the range is very wide^{9,3}.

The highest incidence occurred in ages between 20-50 years^{10,24,25,26}, which is similar to our study, the age distribution figures for hepatic hydatosis are generally meaningless since the rate of growth of such cysts is very slow.

- Our results is very similar to other Iraqi results & to the results of the near by countries.
- Female were affected more than the males, probably because in the rural area, the females are usually involved in dealing with the animals, & they don't care to disinfect their contaminated food & vegetables¹⁰,in our study there is no big difference between male & females probably because our hospital is a tertiary

centre (most of the cases are referred from rural & urban regions).

In our study, most of the cases are referred to us very late, this is why, the presenting signs & symptoms are that of enlargement of the cyst (abdominal pain, biliary rupture), while only a small number of patients were asymptomatic .

Concerning the location of the cyst & multiplicity in the liver, The majority of the hepatic hydatid cysts are a single cyst & at the right lobe, this is similar to other studies.^{9, 20, 27, 28}

Our result is higher to that of Kattan (Saudi Arabia), Mustapha(Morocco), yet it is lower than that of Zeki(Iraq) which very high , concerning the biliary communication & It is lower than that of Gonzalez(SPAIN), concerning biliary compression, This probably because our patients have a high pain threshold , & they consult their doctores usually very late (until complication occur).

In our study the liver is involved alone in a similar result to that of Hadidy (SYRIA) , & less than that of Al -Bahrani, probably because the cases are referred to as a complicated cases for further management.

In our study, a large number of patients needed other operation for one or more than one time, 39 patients (which constitute 33.4 % of all patients, the reoperation is either for complication of surgery, or for re-infestation. This is very high in comparison to Gonzalez (SPAIN), this is because most our patients were treated by endocystectomy, Gonzalez reported that reintervention on account of complications were more frequent after partial cystopericystectomy (14.1%), & after total pericystectomy (5.8%), chiefly because of perihepatic or subphrenic abscesses, while none of the patients in whom a hepatic resection had been performed came to reoperation.

Operation for concomitant pulmonary hydatid was needed in 5 patients (3.3%), & for recurrence or reinfestation in the liver or peritoneal cavity in 30 patients (20%) , this is a high number as compared to others. This difference may be due to the method used (mere evacuation & omentoplasty which result in relapse of 22%²⁰), & because it is not unusual for a patient who is already affected ,or for one

who has been treated ,but continues to live in an endemic environment to become reinfested & to develop a new hydatid cyst in the remaining liver parenchyma²⁰ .

.In our study, the percentage of infected cysts is very high , this is because most of our cases are advanced cases, with biliary rupture.

In our study most of the hepatic hydatid cyst, are dealt with by endocystectomy, this is probably because of endocystectomy is associated with less post operative morbidity& redused duration of hospital stay²⁹ .

The number of interventional therapy (for advanced cases) is very high, this indicates that most of our cases are advanced & that they are not fit for general anaesthesia.

CBD obstruction ,was treated by exploration of the CBD in only 10% of the patients.In the rest of the patients we used interventional therapy.

In our study the exploration of the CBD, is less than the others , this is because we in our hospital , have fascilities for interventional therapy(ERCP- sphincterotomy, balloon extraction of shreads & others).

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