Liver Hydatid Cyst:The Advances

Hazim Naif Barnouti
Al-Mustansiriya Medical School, Baghdad , IRAQ
E-mail:-hazimbarnouti@yahoo.com

Letter to The Editor

Dear Sir :

Dramatic advances developed lately in Diagnosis and Treatment of Liver Hydatid Disease upon the understanding that it is a very wide spectrum entity, and not just a single Disease.The Diagnosis is based upon an ultrasound study showing a liver hydatid cyst or cysts combined with a positive immune-serological test for Antibodies against *Echinococcusgranulosus*antigens.Once Diagnosis is made,it should always be followed by Staging(Classification)of the Cyst upon which the Treatment and Prognosis will depend. There are two staging systems,The Gharbi and the W.H.O. This liver hydatid cyst staging will unify the information for each stage and allow audit to be performed[1].The Gharbisystem classifies liver hydatid cysts as follows:

Stage-1:simple cyst. contains pure hydatid fluid.

Stage-2:cyst with a detached germinal layer(water lily sign).

Stage-3:cyst contains daughter cysts(honey comb appearance).

Stage-4: cyst filled with amorphous mass(wheel spoke sign).

Stage-5: cyst with a thick calcified wall.The WHO staging reveals also whether the cyst is viable(infective), or non-viable(non-infective),or is in an intermediate stage between the two. In selected cases,CT scan which is 98% accurate and is very precise for anatomical localization may be used.It identifies intraperitoneal cysts.M.R.I. provides a much better view of liquid areas within tissues. Diffusion weighted M.R.I[2]IS recently introduced. AHydatid cyst will appear Hyperintense while a non-parasitic cyst will not. Intra operative ultrasound: is crucial in radical liver hydatid cyst surgery to delineate cyst extent and its relations to major vessels and important structures to safe guard them.

Peri-Procedure Chemotherapy: Cyclical peri-procedure(open or laparoscopic surgery/per-cutaneous treatment-P.A.I.R.)Chemotherapy [3] is now standardized.Albendazole(Zentyl) 10-15 mg./kg./day in divided doses with or without Praziquantel(Biltricide) 40 mg./Kg/week for one month followed by two weeks of no treatment,and repeat for three cycles.Praziquantel if Added will Potentiate the Action of Albendazole(Zentyl).This cyclical treatment replaced the previously practiced continuous treatment after the proof that it is as effective with the advantage of having less side effects, more compatibility, and less drug resistance. Advantages of Peri-procedure chemotherapy in liver hydatid disease:- it reduces hydatid fluid volume,consequently intra-cystic pressure will decrease.this will make the

procedure whether open or laparoscopic surgery; or per-cutaneous treatment (P.A.I.R.) both easier,and less risky.There is less risk of hydatid fluid spillage,consequently,there is less risk of anaphylaxis. proto-scolices implantation,and it follows a lower liver hydatid cyst recurrence rate. Continuing the chemotherapypost-operatively will deal with any spilled proto-scolices at the time of the procedure.This cyclical peri-procedure chemotherapy is not only standardized now,but it is also W.H.O. Endorsed[4].Many studies after years of follow-up confirmed the theoretical advantages of cyclical peri-procedure chemotherapy for liver hydatid cyst. An Outstanding Study is that of Shmir [5]involving a group of surgery only for liver hydatid cyst,and a second group of surgery + perioperativechemotherapy.The follow-up of the two groups was for five years. The results were as follows:

A)Viable Protoscolices at the time of surgery were present in 94.45% of cases of the surgery only group compared to 0% in the surgery + chemotherapy group.

B)Liver hydatid cyst recurrence rate: was 16.66% in the surgery only group compared to 0% in the surgery+ chemotherapy group. Surgical treatment of Liver Hydatid Cyst: In spite of P.A.I.R. and chemotherapy,surgery remains the major treatment modality for liver hydatid cyst.It can be used for all stages of liver Hydatid cyst, and whether the cyst is complicated or not,something P.A.I.R. Cannot do.It can be done for all sites of liver Hydatid cyst,somethingLaparoscopic surgery cannot match.It can be Done when a Large Number of Cysts is Present,Something which Both P.A.I.R. and Laporoscopic Surgery Can Not Match.Currently Practiced Liver Hydatid Cyst Surgery is the Following(Open and Laparoscopic Surgery)[6]:

A)Conservative-Tissue Sparing-Surgery: Cystectomy of the Parasitic Cyst + Dealing with the ResidualCavity)Capsulorrhaphy;Drainage ;Omentopexy;Introflexion;Capitonage).

B)Radical Surgery(Availability of Intra-Operative Ultrasonography is Crucial):- Total Pericystectomy;local resection-wedge excision;segmentectomy; lobectomy; segmentectomy + lobectomy; liver transplantation.

C)Minimally Invasive Surgery(Per-Cutaneous Surgery=P.A.I.R.): Puncture.Aspirate.Inject.Reaspirate: suitable for early stages,and one or very few cysts. WHO panel treatment rules: [7] determined by the W.H.O informal working group consensus panel:-

A)Patient criteria: Age of patient;comorbidities; individual preferences; adherence of patient to long term monitoring.

B) Cyst Criteria:Number of cysts;size; location; stage(type); complicated or not.

Conclusion

Liver hydatid cyst is diagnosed by an ultrasound view showing a liver cyst combined with a + ve serological test for *Echinococcusgranulosus*. Once diagnosis is made, the next step is staging (classification) of the cyst according to Gharbi or W.H.O. staging systems.Treatment will be decided greatly by the stage of the cyst. Cyclical Peri-Procedure chemotherapy is now standardized and W.H.O. endorsed. It is started prior to the procedure and continued after the procedure in three cycles.Its Advantages have been Proved by Many Studies.

References

1- Turgut A T;Akhan O;Bhatt S;Dogra V S.Sonographic Spectrum of Hydatid Disease. UltrasoundQ.2008;24:17-29.

2- Oruc E;Yildirim N;Topal N B;Kilicturgay S;Akgoz S;Savci G.The Role of Diffusion Weighted M.R.I. IN THE Classification of Liver Hydatid Cysts, and Differentiation of Simple Cysts and Abscesses from Hydatid

Cysts.Diagnostic Interventional Radiology 2010;16:279-287.

3- British National Formulary.Hydatid Disease.2010;P.401.

4- Yasawy M I;Mohammed A E;Bassam S;Karami M A;Sheriq S. Percutaneous aspiration and drainage with adjuvent medical therapy for treatment of hepatic hydatid cysts. World J of Gastroenterology2011.17(5):646-650.

5- Shmir K A.role of Albendazole in the management of hydatid cyst liver.Saudi J of Gastroenterology 2011;17(5)132-136.

6- Ertem M.Laparoscopic Liver Hydatid Cyst Treatment.Diagnostic Surgery J.2013.15(4):333-336.

7- W.H.O. Informal Working Group on Echinococcosis in Humans.Bulletin World Health Organization 1996.74(3):231-242.