LIVER ABSCESS IN CHILDREN - NOT AN UNCOMMON PROBLEM

Pages with reference to book, From 273 To 275

Aisha Mehnaz, S. Mohsin Azhar Ali (Department of Paediatric Surgery, Dow Medical College and Civil Hospital, Karachi.)

ABSTRACT

Thirty cases of amoebic liver abscess in children are being presented . Diagnosis was based on clinical presentation, ultrasound examination, detection of E.H. trophozoite in the aspirate and response to therapy. Aspiration of pus alongwith appropriate medication was found more appropriate management than medical therapy alone. (JPMA 41: 273,1991).

INTRODUCTION

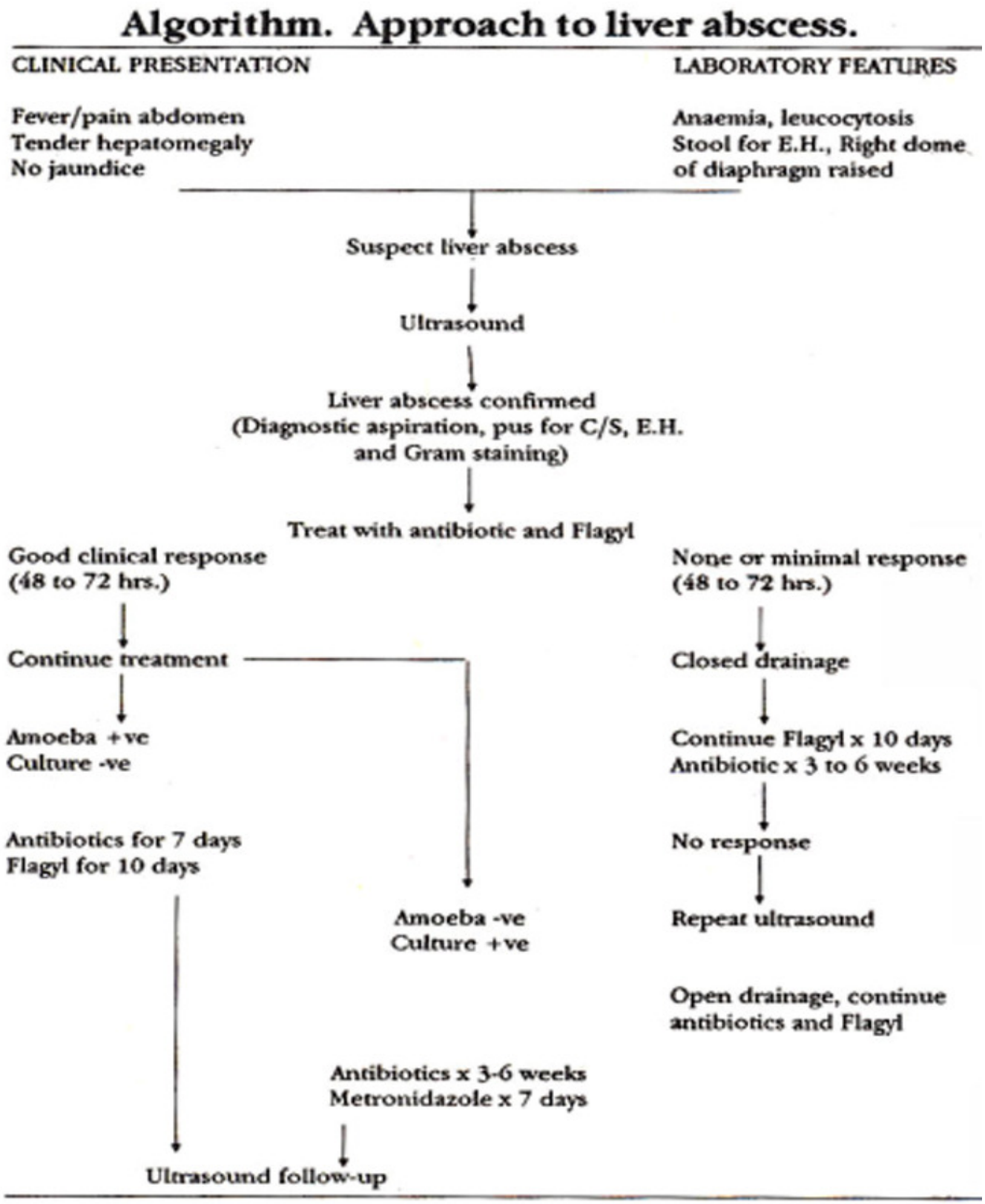
Liver abscess, regarded generally a rare condition, is not an uncommon problem in children. Bacterial and parasitic invasion of the liver are the two common aetiological factors. A number of associated risk factors are involved, perhaps the most important being a frequent parasitic infestation of the gastrointestinal tract in children living in endemic areas. This study presents clinical manifestations, diagnostic evaluation, and management of liver abscess in children.

PATIENTS AND METHODS

Thirty children with liver abscess were studied between May, 1985 and March, 1989 at Civil hospital Karachi. After a detailed clinical evaluation, haemoglobin, total and differential leucocyte count, ESR, liver function tests and ultrasound examination were done in all cases. Aspiration of pus under ultrasound localization was done for microscopy and culture. They were treated with antibiotics and antiamoebic drugs and closed or open drainage was done in non-responders to drug therapy.

RESULTS

Included in the study were 13 males and 17 females. Their ages ranged from 1 to 12 years (mean 5. 7years) with maximum (46.4%) frequency between 3 to 6 years. They belonged to low socioeconomic group and lived in the congested areas of the city. The mean duration of symptoms at the time of admission was 22 days.



Fever, abdominal pain, tender hepatomegaly in the absence of jaundice were the most consistent findings. Visible lump was seen in epigastrium in 4 patients and two were mildly jaundiced (Table 1).

TABLE I. Clinical manifestations of children with liver abscess.

Symptoms	No.	%	Signs	No.	%
Fever	30	100	Hepatomegaly (Mean 5.5 cm)	29	96.6
Abdominal distension	27	90	Tender RHC	23	76.6
Abdominal pain	21	70	Temperature (Mean 100.2°F)	23	76.6
Diarrhoea/Dysentery	11	36.3	Anemia	15	50.0
Vomiting	7	23.3	Jaundice	2	6.6
Anorexia	4	13.3	Mass epig.	4	13.3
Cough	4	13.3	Changes base of lung	4	13.3
Oedema	3	10.0			
Pain in right chest	2	6.6	Splenomegaly	1	3.3
Weight loss	1	3.3			

Past history of dysentery was obtained in 40% patients. Complications mainly seen were pleural effusion (2), subdiaphragmatic abscess (2) and bile flstulae (2). Fifty percent children were anaemic (mean haemoglobin 8.5G%), 83% had leucocytosis with a shift toward the left and ESR was elevated in all cases (mean 95.8 mm in 1st hour). Two jaundiced patients had mean bilirubin of 2.1 mg/dl. Elevated levels of SGPT and alkaline phosphatase were noted in 31.5% and 33.5% respectively (Table II).

TABLE II. Haematological investigation in liver abscess

INV	Mean	Range	Abnormal. result (%)
Hb (gm/dl)	8.7	4.4-15	50
TLC (cu/mm)	18,520	4,050-88,000	83.3
ESR (mm 1st hr)	95.8	50-175	100
S. Bilirubin (mg/dl)	0.8	0.2-2.3	11
SGPT (U/L)	41.5	11-105	31.5
Alk. Phos (U/L)	152	13-501	33.3

On ultrasound examination majority of abscesses were solitary. The right lobe was involved in 80% of patients and 87.5% of these abscesses were located in posterosuperior or posterolateral aspects and only one was situated anteriorly. The size of abscesses varied from 3.4x2.4 cms to 10x10 cms. Microscopic examination of stool showed either cysts or trophozoites of entamoeba histolytica in 34.8% of cases. Pus aspirated from the liver abscess ‘in 12 cases showed EH trophozoites in all and gram staining was positive for gram positive or negative bacilli in 8 cases indicating secondary infection.All patients were treated with a combination of broad spectrum antibiotics (aminoglyaside, plus penicillin, or first generation cephalosporins) with metroni dazole. Therapy was continued for 20 days in 6 patients till they were asymptomatic. Remaining 24 patients received antibiotics and antiamoebic drugs from 3 to 24 days (mean 9 days) without any improvement. Open surgical drainage or closed percutaneous drainage with a tftick chest tube was done in these patients. All patients recovered within a week. Mean postdrainage hospital stay was 7 days.

DISCUSSION

Liver abscess is a common problem in children. Pyogenic abscess is more common in the West and amoebic liver abscess in tropical and subtropical countries[1,2]. A high frequency of liver abscess in Pakistani children may be due to frequent parasitic infestation as a result of poor personal and environmental hygiene. As indicated in earlier reports[3] history of dysentery was obtained in 43% of cases in this study. Among important symptoms, fever associated with rigors and right quadrant abdominal pain were commonly observed. Severe systemic manifestations were less frequent. Toxaemia and shock were not observed. Tender hepatomegaly and sallow skin were consistent clinical findings. Jaundice was absent or mild. The laboratory findings were oflimitedvalue. Anaemia, raised ESR (100%), with elevated total leucocyte count with predominant shift to left was commonly observed. Stool microscopy showed evidence of mixed parasitic infestations in 56.6%. Similar figures are reported by others[4]. Vegetative or cyst forms of E.H. were seen in 34.80%of children suffering from liver abscess. Microscopic examination of pus immediately after aspiration was found to be the best technique for identification of E histolytica. The test is of particular value in our set-up, as it is rapid and inexpensive and can be performed in the side laboratory of the ward by any person trained to identify the amoeba. Culture of pus was not informative in our study. It yielded positive result in only two patients (13%). Both showed evidence of infestation with E. histolytica on direct microscopy of pus. Ultrasonography is found to be the most useful, non-invasive and accurate means of establishing a diagnosis[3]. It helps in localising the site for aspiration of abscess and follow-up during healing process. Because of overlapping picture of pyogenic and amoebic liver abscesses, and the fact that the latter was found to be secondarily infected in majority, initial conservative management with a combination of broad spectrum antibiotics and metronidazole was tried in all cases (see Algorithm). The therapy was continued in six cases without surgical intervention till these children had shown symptomatic improvement (mean duration of therapy was 20 days). Surgical intervention was needed in remaining 24 cases (80%) at some stage of treatment. Indication for surgical drainage was worsening of sign and symptoms and rapidly increasing size of the abscess, and evidence of secondary infection in diagnostic aspirate. Closed percutaneous surgical drainage of pus under ultrasound localisation using a wide bore chest tube was found to be as effective as open drainage. The former procedure has the advantage of being simple, less time consuming, and saves the child from unnecessary general anaesthesia. Aspiration of pus hastens the recovery (7 days as compared to 20 days in non- aspirated group), and shortens the duration of stay in the hospital.

REFERENCES

1. Rode, H., Davies, mrq and Cywes, S. Amoebic liver abscess in infancy and childhood, S. African 3. Surg., 1978;16:131.
2. Scragg. J.N. Hepatic amoebiasis in childhood. Trop. Doct., 1975;5:132.
3. Faust, E.C. Amoebiasis. Springfield III., Thomas, 1954.
4. Moores. Liver abscess in childhood. Paediatr. Surg. lot., 1988;3:27.
5. DeBakey, ME, and Ochsner, A. Hepatic amoebiasis, a 2Oyears experience and analysis ofZ63cases. lot. Abstr. Surg., 195 1;92:209.