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AMEBIC LIVER ABSCESS;
INCODENCE AND OUTCOME

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ABSTRACT... Amoebic liver abscess is a common infection in third world countries like ours due to poor sanitary arrangements. It presents with severe pain and high grade fever and if not diagnosed and treated promptly, may lead to complications and mortality. **Objectives**: To estimate the incidence, need for aspiration and treatment outcome. **Design**: Case series study. **Setting:** At respective consultations centers in Faisalabad. **Period**: From 1st, January, 2007 to 31st December 2008. **Patients and Methods:** All patients suspected of the diagnosis of liver abscess whether presenting to physicians or surgeon were referred for ultrasonography for the confirmation of the diagnosis. Basic biodata, coexisting medical or surgical diseases and relevant investigation were recorded, and patient was assessed for the need to aspirate the abscess. After initial treatment patients were reassessed for the need to aspirate the abscess on third, tenth and twentieth day both clinically and ultrasonically. **Results:** We had 188 cases in the study. There were 128(68 %) males and 60 (32%) females. Majority, 156 (76.6%), of the abscesses were single, 40(21%) had double and 4 (2%) had three abscesses.166 (83%) were situated in the right lobe, 28(15%) in the left lobe and 4 (2%) had abscess in both lobes. 16 (9%) were aspirated at presentation due to their size or position. Only 4 (2%) were aspirated at first follow-up on third day due to non resolution of pain or fever or increase in size. All the patients who were not lost from follow up responded to standard treatment of metronidazole. **Discussion:** Amoebic liver abscess is a common diagnosis in our setup. Patients presents with right upper quadrant pain and fever. Clinical background and ultrasonogram give a reasonable suggestion about amoebic etiology. If initial aspiration is not indicated due to size larger than 5cm. or proximity to surface or nonresolution of symptoms or lesion in left lobe, conservative treatment with oral or intravenous metronidazole is successful.

Key words: Amoebic, Liver Abscess.

INTRODUCTION

Amebic liver abscess (ALA) is a common infection in third world countries like ours due to poor sanitary arrangements. Usually there are no preceding GI symptoms and patients present with severe pain and high grade fever and if not diagnosed and treated promptly, may lead to complications and mortality.

This study was undertaken to estimate the incidence, need for aspiration and treatment outcome.

MATERIALS AND METHODS

This study was carried out at respective consultations centers in Faisalabad, Pakistan, from 1st January, 2007 to31st December 2008, on patients with a provisional diagnosis of liver abscess on routine consultancy for the participating consultants. All these patients were referred for ultrasonographic study to confirm the presence of abscess, its site and size, single or multiple and ultrasonographic suggestion of amoebic nature and need for aspiration due to either the large size i.e. < 5 cm or the site like proximity to the surface or lesion in the left lobe or if the abscess has already ruptured[1,2,3]. After confirmation of the diagnosis, patients' biodata and associated medical or surgical diagnosis was recorded. If aspiration was advised and done on the first visit, it was recorded. Treatment on Metronidazole (MTZ) 400 eight hourly was started orally along with supportive treatment like analgesic-antipyretics, anti-emetics and any other

treatment for co-existing medical or surgical disease. Intravenous MTZ was used if patient couldn't tolerate it orally. Patients were asked for follow-up visit on 3rd, 10th and 20th day and were assessed clinically and ultrasonographically for the need to aspirate based on the non-resolution of fever, pain and possibility of rupture. Aspiration of large abscesses (>5 cm) is rarely necessary but should be considered if there is no clinical improvement after 3 days of metronidazole treatment[4].

If aspiration was done, so was recorded. Second follow-up visit was planned on tenth day and the third on twentieth day when patients were assessed clinically. Final outcome was recorded for the patients who completed the all three follow-up visits. During treatment period patients were free to consult before time for any problem, be it related to abscess or to the associated medical conditions. We did not go for serological confirmation of the diagnosis due to the cost involved and because ultrasonogram (USG) gives a fairly accurate differentiation between amebic and pyogenic liver abscess. Serological testing to detect the presence of immunoglobin G antibody against Entamoeba histolytica can be done and a value of more than 0.4 optical density units is considered positive[5].

INCLUSION CRITERIA

All patient presenting with provisional diagnosis of amoebic liver abscess supported by ultrasonic findings were included in the study.

EXCLUSION CRITERIA

If USG couldn't clearly label the abscess to be amebic, patient was not entered into the study.

STUDY DESIGN

Case-series study.

RESULTS

We had 188 cases in the study period of two years, from 1st January, 2007 to 31st December 2008. All these patients had a strong clinical suspicion of amoebic liver abscess based on the clinical history, associated diseases and a strong ultrasonographic suggestion of amoebic etiology. There were 128 (68 %) males and 60 (32%) females. Age and sex distribution in each decade of life is given in table 1.Majority, 156 (76.6%), of the abscesses were single, 40(21%) had double and 4 (2%) had three abscesses.166 (83%) were situated in the right lobe, 28(15%) in the left lobe and 4 (2%) had abscess in both lobes. 16 (9%) were aspirated at presentation due to their size or position.

All the patients who were not lost from follow up responded to standard treatment of oral MTZ in a dose of 400 mg three times a day, or intravenous MTZ in case of vomiting along with supportive therapy like antiemetic, anti-acid, antipyretic and analgesics. Apart from those aspirated at initial consultation, all responded to treatment.

DISCUSSION

In its invasive form, the Antemeba Histolitica Trophozoite is responsible for clinical syndromes, ranging from classical dysentery to extra-intestinal disease with emphasis on hepatic amebiasis. Abdominal pain, tenderness and diarrhea with watery stool, sometimes with blood, are the predominant symptoms of amebic colitis. The trophozoite reaches the liver causing hepatic amebiasis. Right upper quadrant pain, fever and hepatomegaly are the predominant symptoms[6].

Pyogenic and amebic liver abscesses are the two most common hepatic abscesses. Amebic abscesses are more common in areas where Entamoeba histolytica is endemic, whereas pyogenic abscesses are more common in developed countries. Amebic liver abscess is more prevalent in individuals with suppressed cell-mediated immunity, men and younger people. The right lobe of the liver is the most likely site of infection in both types of hepatic abscess. Patients usually present with a combination of fever, right-upper-quadrant abdominal pain, and hepatomegaly. Jaundice is more common in the pyogenic abscess. The diagnosis is often delayed and is usually made through a combination of radiological imaging and microbiologic, serologic, and percutaneous aspiration techniques[7].

188 cases in two years at small consultancy setup is quite significant figure. There were 128 (68 %) males and 60 (32%) females. Age and sex distribution in each

decade of life is given in table 1.Majority, 156 (76.6%), of the abscesses were singly, 40(21%) had double and 4 (2%) had three abscesses.166 (83%) were situated in the right lobe, 28(15%) in the left lobe and 4 (2%) had abscess in both lobes. 16 (9%) were aspirated at presentation due to their size or position.

Distinguishing amoebic from pyogenic liver abscesses is crucial because their treatments and prognoses differs. In a study, presumptive diagnoses of amoebic (n=471;82%) vs. pyogenic (n = 106; 18%) abscess was based upon amoebic serology, microbiological culture results, and response to therapy. Patients with amoebic abscess were more likely to be young males with a tender, solitary, right lobe abscess (P= 0.012). Univariate analysis found patients with pyogenic abscess are more likely to be over 50 years old, with a history of diabetes and jaundice, biliary tract disease, chronic renal failure, malignancy, and liver cirrhosis, with pulmonary findings, multiple abscesses, amoebic serology titers <1:256 IU, and lower levels of serum albumin (P< 0.04). Multivariate logistic regression analysis confirmed that age >50 years, pulmonary findings on examination, multiple abscesses, and amebic serology titers <1:256 IU were predictive of pyogenic infection. Amebic abscess is more prevalent and, in most circumstances, can be identified and managed without percutaneous aspiration[8].

Infectious liver diseases can be accurately evaluated with ultrasonography (USG), computed tomography (CT), and magnetic resonance (MRI) imaging. Characteristic changes in USG echogenicity, CT attenuation, or MRI imaging signal intensity and typical enhancement patterns can contribute to the diagnosis of specific infectious diseases, including abscesses, parasitic diseases, fungal diseases, granulomatous diseases, viral hepatitis, and other less common infections. CT is particularly helpful in revealing the presence of calcifications and gas and in detailing the enhancement pattern.

Radiological findings may be sufficient to obviate aspiration or histological examination; although in most instances they are less specific. Nevertheless, imaging findings taken together with appropriate clinical information may provide the most likely diagnosis, even if biopsy is sometimes required for confirmation[9,10].

Although amebic liver abscess can virtually always be successfully treated medically, percutaneous drainage has been advocated recently. In one study on 96 recently treated patients, therapeutic aspiration and percutaneous drainage were rarely needed. Most cases were correctly diagnosed by means of clinical, laboratory, and sonographic findings. Abscesses in only 13 (13.5%) patients were diagnostically aspirated.

The key to successful amebic abscess management is medical therapy. Therapeutic drainage is rarely needed. Successfully treated patients occasionally respond slowly to medical therapy, and successfully treated amebic abscesses may enlarge or become bizarre-appearing on sonograms. This should not prompt therapeutic drainage.

Diagnostic aspiration is appropriate when amebic and pyogenic abscesses are indistinguishable using clinical and imaging findings. Rare indications for therapeutic aspiration or drainage include pyogenic super infection and large, juxtacardiac abscesses (potential intrapericardial rupture)[11].

In another study twenty-four cases (66.7%) were amebic, 7 (19.4%) pyogenic, 3 (8.3%) indeterminate and 2 (5.5%) tuberculosis. The liver abscess was single in 61.1%, multiple in 27.8%, and in 66.7% of cases the abscess was present in the right lobe of the liver. Percutaneous drainage was performed in 27 patients (75%). After placement of a percutaneous drainage catheter in a hepatic abscess, there is a significant risk (26%) of post-procedure sepsis[12].

Percutaneous drainage or surgery is required when amebic liver abscess (ALA) fails to respond to medical management. In some of these patients, non-response may be due to communication of ALA with the biliary tree. This report describes the experience with the use of endoscope biliary draining in such patients. The indications for drainage were: abscess volume exceeding 250 mL, a thin rim of tissue (< 1 cm thick) around the abscess, systemic toxic features and failure

to improve on medical treatment[13]. Patients with abscess drain output >25 mL/day persisting for 2 weeks or presence of bile in the drain fluid underwent endoscope biliary drainage. None of the 25 patients with needle aspiration needed any further treatment. Of the 90 who underwent catheter drainage, the catheter could be removed within one week in 77 patients; the remaining 13 patients (median age 42 years, range 24-65; all men) had an abscess-biliary communication. In them, the median catheter output was 88 mL/day (range 45-347) and 54 mL/day (28-177) at 2 days and 2 weeks after catheter placement. The drain fluid contained bile in all 13 patients and in addition contained pus in 10 patients. Eleven patients had a solitary abscess and two had multiple abscesses. Cholangiogram showed biliary communication in all 13 patients. In patients with amebic liver abscess communicating with the biliary tree, biliary stenting may hasten clinical recovery and allow early removal of liver abscess catheter drain.

In another study, Laparoscopic surgical treatment was performed at 55 patients with acute amebic liver abscess. The diagnosis of acute amebic liver abscess was verified with clinical, serological, USG, x-ray and CT methods. The laparoscopic method permits to sanify the abscess cavity of any localization. All the 55 patients have been discharged in good health. Laparoscopic method is maximally rational, associated with minimal surgical trauma, permits to decrease hospital stay and period of postoperative rehabilitation[14].

Another aspect addressing frequent occurrence of Jaundice in patients with amoebic liver abscess needs discussions. In this study, all patients had fever and jaundice. They detected damaged hepatic veins and bile ducts in all patients with amoebic liver abscess causing bilio-vascular fistula and hyperbilirubinemia, which reverted to normal after biliary diversion with nasobiliary drainage. Jaundice in patients with amoebic liver abscess is caused by bilio-vascular fistula resulting from hepatic necrosis leading to damage to bile ducts and hepatic veins[15].

The vast majority of amoebic liver abscesses resolve to a sonographically normal parenchymal pattern. However, in a small proportion of cases characteristic residues remain. These residues do not require further treatment or diagnostic intervention and should be considered in the differential diagnosis of space-occupying liver lesions, in particular in patients from amoebiasis-endemic areas[16].

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PREVIOUS RELATED STUDIES

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If you think you are leading and turn around to see no one following, then you are just taking a walk.

Benjamin Hooks