



ORIGINAL RESEARCH PAPER

General Surgery

A STUDY ON LIVER ABSCESS: AGE & SEX DISTRIBUTION, DIAGNOSIS, MANAGEMENT AND OUTCOME

KEY WORDS:

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INTRODUCTION

Liver abscess, particularly due to amebiasis, is an important clinical problem in tropical region of the world and accounts for a high number of hospital admission. It is usually an easily treatable conditions with good clinical outcomes.

There is however potential for morbidity and even mortality if proper and timely treatment is not provided. The standard treatment of liver abscess is the use of appropriate antibiotics and supportive care. Needle aspiration can be used as an additional mode of therapy and has been promoted by some authors for routine use in the treatment of uncomplicated liver abscess. It is suggested that needle aspiration can improve response to antibiotics treatment, reduce hospital stay and the total cost of treatment. Although USG guided needle aspiration is fairly safe, it is nonetheless an invasive procedure requiring the passage of a wide bore needle in to a highly vascular organ, and can be associated with the risk of bleeding. Needle aspirations, especially at the time of intervention has therefore remained a debatable issue and it seems important to determine its possible role in the treatment of liver abscess.

AIMS & OBJECTIVE

To study the age and sex distribution of liver abscess in tropical countries, diagnostic tool, effectiveness of medical management and percutaneous needle aspiration according to size of abscess and impact on length of hospital stay of these patients.

METHODS

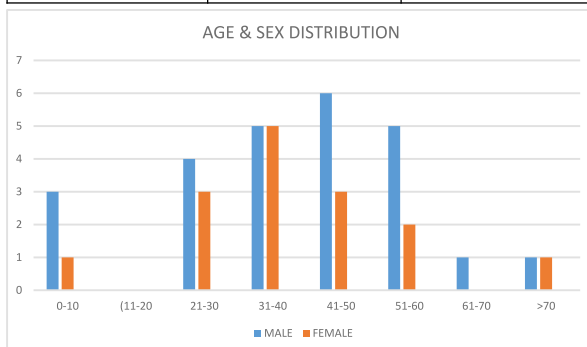
A study was conducted in the Department of surgery, B J Medical College and Civil Hospital, Ahmedabad, Gujarat, India between September 2020 to June 2021. A total of 40 patient with liver abscess were taken and appropriate details regarding patient's clinic-demographic profile and investigations were also collected. The effectiveness of either treatment was measured in terms of duration of intravenous antibiotic, clinical improvement, reduction in the size of cavity, treatment success rate, duration of hospital stay including long-term outcomes such as sonographic resolution of cavity and recurrence rate at 6 months post-treatment. There were no any inclusion or exclusion criteria.

RESULTS

AGE AND SEX DISTRIBUTION

	MALE	FEMALE
0-10	3	1
11-20	0	0
21-30	4	3
31-40	5	5
41-50	6	3

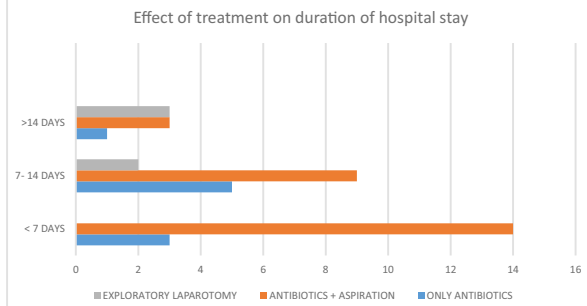
51-60	5	2
61-70	1	0
>70	1	1
	25	15



Radiological investigations:

X RAY Changes	11
Size in USG <5cm	14
>5cm	26
CECT(A+P) Required	9

	ONLY ANTIBIOTICS	ANTIBIOTICS + ASPIRATION	EXPLORATORY LAPAROTOMY
< 7 DAYS	3	14	0
7- 14 DAYS	5	9	2
>14 DAYS	1	3	3



OUTCOME

In this study 62.5% patients were male and 37.5% were female and 25% of patient were in age group of 31 to 40 years.

42.5% of patients with liver abscess having short hospitalization period i.e. < 7 days and out of which 82% of patient had undergone both aspiration as well as antibiotics coverage. 40% of patients with liver abscess having hospitalization period between 7 to 14 days and out of which

56% of patients had undergone aspiration as well as antibiotics coverage, 31.2% were treated with antibiotics only and 12.5% had undergone exploratory laparotomy.

17.5% of patients with liver abscess having hospitalization period of 14 to 28 days and out of which 14.28% of patient was treated with antibiotics alone, 42.8% were treated with antibiotics and aspiration both and 42.8 % had undergone exploratory laparotomy'

Overall mortality was 10% and seen in patients with size of abscess > 5cm and ruptured into peritoneal cavity or with other co-morbidities and 90% of the patient get discharged.

DISCUSSION

The liver is probably exposed to portal venous bacterial loads on a regular basis and usually clears this bacterial load without problems. The development of a hepatic abscess occurs when an inoculum of bacteria, regardless of the route exposure exceeds the liver's ability to clear it. This results in tissue invasion, neutrophil infiltration, and formation of an organized abscess. The potential routes of hepatic exposure to bacteria are the biliary tree, portal vein, hepatic artery, direct extension of a nearby nidus of infection, and trauma.

Most hepatic abscesses involve the right hemiliver, accounting for about 75% of cases, the explanation for this is not known, but preferential laminar blood flow to the right has been postulated. The left liver is involved in approximately 20% of the cases; the caudate lobe is rarely involved (5%).

The classic description of the presenting symptoms of hepatic abscess is fever, jaundice and right upper quadrant pain, with tenderness to palpation. Unfortunately, this presentation is present in only 10% of cases. Fever, chills, and abdominal pain are the most common presenting symptoms, but a broad array of nonspecific symptoms can be present.

Abdominal radiograph can show extraluminal free air in very few cases of pyogenic liver abscess and rarely shows air fluid level or portal venous gas.

Chest radiograph can show an increased right hemidiaphragm or pleural effusion in some cases.

On US, pyogenic liver abscess appears as either a hyperechoic or hypoechoic lesion and can have internal debris or septations.

CT scanning appearance varies according to the stage of the abscess. In a presuppurative stage, it appears as a heterogeneous, hypodense lesion with poorly defined irregular contours.

In this stage, the abscesses simulate the appearance of a tumor. When the abscess is in the suppurative stage, it appears hypoechoic or anechoic with clearly delineated rounded contours that enhance with contrast showing a ring sign.

In case of amoebic liver abscess sonographic features include a rounded, homogeneous, hypoechoic lesion usually located near the liver capsule.

CT imaging is better in the initial phases of abscess formation but can be equivocal in later phases.

CT shows a rounded, well-defined hypodense lesion and is often difficult to distinguish from pyogenic liver abscess radiographically

The use of needle aspiration in the treatment of uncomplicated liver abscess remains a debatable issue. Although most of these patients respond to antibiotics and suppurative care, a

significant number eventually require needle aspiration which is generally done at a later stage, while medical therapy alone is considered as inadequate, resulting in an extended hospital stay.

An early decision regarding aspiration of liver abscess is therefore important as it is likely to reduce the length of hospital stay and hence the cost of treatment. On the basis of patient characteristics at the time of presentation, using a large data set, we have identified some factors that are associated with aspiration of liver abscess irrespective of underlying etiology but we were unable to evolve a model for aspiration with good power. Most patient in this series also recovered completely on appropriate antibiotics and supportive care. However in a substantial number of patients, percutaneous needle aspiration was additionally done for complete recovery. Based upon a comparative analysis between the two groups, patient who underwent aspiration were older, had larger or multiple abscesses and longer duration of symptoms than patients who recovered completely on medical therapy alone. Underlying etiology of amebic, pyogenic, mixed or indeterminate infection was not found to be a determinant for aspiration.

CONCLUSION

Liver abscess is most common in 30-50 year age group and more common in males with 1.67:1 male and female ratio and mostly seen in right lobe of liver (82.5%)

X-ray changes seen in 27.5% of patients with liver abscess.

USG is the investigation of choice and in our study 35% of the patient had abscess of size < 5cm and 65% of patients had abscess of size >5cm

CECT (A+P) required in 22.5% of patients and all of the patients had abscess size >5cm on USG

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