



General Surgery

A RETROSPECTIVE STUDY ON CLINICAL PROFILE AND OUTCOME OF MANAGEMENT OF LIVER ABSCESS IN A RURAL TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction- Liver abscess is an inflammatory space- occupying lesion of the liver caused by infectious agents. Amoebic liver abscess and Pyogenic liver abscess are its two predominant causes. Rarely, liver abscess can be caused by fungi, mycobacterium, and other atypical organisms. ALA is the predominant cause of liver abscess in India.

Aims and objectives:

1. To describe the clinical profile in the patients diagnosed with liver abscess.
2. To assess the outcome of management among them.

Materials and methods: This retrospective study was done based on the records of the patients presented with liver abscess to a rural tertiary care centre. A total of 40 such records were considered and relevant data was taken from it. Those records with clinical and other details of the patients presented with liver abscess were included. **Results:** Of the 40 cases studied, 72.5 % were amoebic liver abscess and rest 27.5% were Pyogenic liver abscess. All presented with pain abdomen (100%) in both the types of liver abscess. Majority were solitary liver abscess in both amoebic (75.9 %) and Pyogenic liver abscess (72.7) %. With respect to percutaneous drainage, in only one case with Pyogenic liver abscess it was complete. **Conclusion:** Of the total liver abscess cases in the study, Amoebic LA were predominant. Though amoebic and Pyogenic were comparable with all other findings, need for exploratory laparotomy and recurrence of the abscess up on follow-up were more common among those with Pyogenic LA.

KEYWORDS : Amoebic liver abscess, Pyogenic liver abscess, percutaneous drainage**INTRODUCTION:**

- Liver abscess is found more commonly in men between 20 and 40 years of age but can occur at any age. 1
- Liver abscess are associated with mortality of up to 20% and are categorized into various types based on etiology, of which amoebic (ALA) and pyogenic (PLA) liver abscess are major types. 2
- Out of total incidence of LA, approximately 2/3rd of cases in developing countries are of amoebic aetiology and 3/4th of cases in developed countries are Pyogenic. 3
- It usually presents with fever with rigors, pain in right upper quadrant. 4
- PLA result from ascending biliary tract infection, hematogenous spread through portal venous system, septicemia with involvement of liver by way of hepatic arterial circulation & secondary spread from intraperitoneal infection.
- Escherichia coli, Klebsiella, and Streptococcus are the most common etiology of PLA. 2
- The diagnosis of PLA is based on picket fence configuration of temperature chart, nausea, vomiting, anorexia, hematological analysis of leukocytosis, anemia, and positive blood or aspirate culture for bacterial etiology. 2
- The diagnosis is confirmed by ultrasonography. Radiological imaging has also altered therapeutic strategy by allowing the possibility of percutaneous approach using needle aspiration or catheter drainage, while open surgery should be reserved for management of complicated cases. 2
- The primary mode of treatment of amoebic liver abscess is medical, however, as many as 15% of amoebic abscesses may be refractory to medical therapy.
- Also, secondary bacterial infection may complicate 20% of amoebic liver abscesses. In such patients and in patients with Pyogenic liver abscesses, surgical drainage has been the traditional mode of treatment. 5

AIMS AND OBJECTIVES:

- To describe the clinical profile in the patients diagnosed with liver abscess.
- To assess the outcome of management among them.

MATERIALS AND METHODS:

- This was a retrospective study conducted upon the patient admitted in the Department of Surgery with Liver abscess, PES Hospital Kuppam.
- The study included records of 40 patients presenting with abdominal pain and diagnosed as Liver abscess from January 2019 to December 2022.

INCLUSION & EXCLUSION CRITERIA:

- Those records with clinical and other details of the patients presented with liver abscess were included.
- Those records with incomplete data were excluded Method of collection of data:

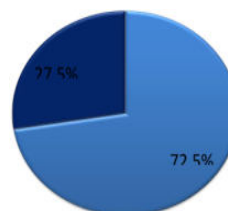
After obtaining permission from the hospital authorities, relevant data was collected and noted in the proforma.

STATISTICAL ANALYSIS OF DATA:

The data was entered into MS Excel & further analyzed using SPSS version 23. For Descriptive statistics, tables and figures were used to present the data in frequencies and percentages.

OBSERVATIONS:

Fig 1: Type of Liver abscess among study participants (n=40) Liver abscess

**Amoebic LA
Pyogenic LA**

Out of 40 patients, 72.5% (29) were amoebic LA, 27.5% (11) were Pyogenic LA

Table 1: Age distribution

Age (in yrs)	Amoebic LA	Pyogenic LA
<30	1 (3.4%)	1(9.1%)
30-45	12 (41.4%)	3 (27.3%)
46- 60	14 (48.3%)	4 (36.4%)
>60	2 (6.9%)	1 (9.1%)

A total of 40 patients were studied, most of the patients belonged to 46-60 yrs age group (48.3 % in amoebic and 36.4% in Pyogenic).

Table 2: Gender distribution

Gender	Amoebic LA	Pyogenic LA
Male	21 (72.4%)	6 (54.5%)
Female	8 (27.6%)	5 (45.5%)

Male predominance is seen in both amoebic and Pyogenic LA (7.4% & 54.5 % respectively)

Table 3: Associated co morbid conditions

Alcohol/ smoking	Amoebic LA	Pyogenic LA
Yes	20 (69%)	5 (45.5%)
No	9 (31%)	6 (54.5%)
Co – morbidity		
Present	14 (48.3%)	6 (54.5%)
Absent	15 (51.7%)	5 (45.5 %)

Alcohol and smoking association is associated with increased incidence of amoebic LA (69%) and associated co morbidity is seen in majority of Pyogenic LA (54.5%)

Table 4: Presenting complaints among study populations:

Variable	Amoebic LA	Pyogenic LA
Fever duration		
1-2 days	13(44.8%)	6 (54.5%)
3-4 days	15 (51.7%)	4 (36.4%)
>5	1 (3.4%)	1 (9.1%)
Pain abdomen		
Present	29 (100%)	11 (100%)
Absent	0(0%)	0(0%)
Toxic features		
Present	2 (6.9%)	1 (9.1%)
Absent	0 (0%)	10 (90.9%)
No. Of abscess		
Solitary LA	22 (75.9%)	8 (72.7%)
Multiple LA	7 (24.1 %)	3 (27.3%)

Pain abdomen was the most common complaint seen in all the patients diagnosed with liver abscess., with fever persisting for >5 days in only one patient. Majority of the patients had solitary liver abscess while presentation.

Table 5: Management among study population

Variable	Amoebic LA	Pyogenic LA
Percutaneous drainage		
Complete	0 (0%)	1 (9.1%)
Incomplete	29(100%)	10 (90.9%)
Usg guided aspiration		
Complete	21(72.%)	9 (81.8%)
Incomplete	8 (27.6%)	2 (18.2%)
Exploratory laparotomy		
Done	7 (24.1%)	5 (45.5%)
Not done	22 (75.9%)	6 (55.5%)

Complete drainage was possible only in 1 patient in Pyogenic LA. USG guided aspiration gave successful outcome in Pyogenic LA in 9 patients (81.8%). Exploratory laparotomy was done more in amoebic LA (75.9%).

DISCUSSION:

In Chethan L study 1 Liver abscesses was found more common in males, with h/o alcoholism in 60% of cases. All patients presented with Right hypochondriac tenderness, with Tender hepatomegaly in 90% of patients. 97 % of patients presented with fever as the main complaint. Anorexia and weight loss was seen in 77% and 0% respectively.

Clinically jaundice was seen in 13% cases. In lab Investigations, Elevated leukocytes was seen in majority of patients (72%), deranged LT with elevated serum alkaline phosphatase and serum transaminase was seen in 50% & 17% respectively with elevated serum bilirubin in 17%. On radiological investigation, right lobe of liver involvement was seen in 87% and left lobe of liver involvement in 13% was cases. No patients had both lobe involvements. Percutaneous aspiration gave maximum cure (50%), compared to conservative treatment (23%), open drainage (27%). Major complications were Pleural effusion (17%), Rupture into peritoneal cavity (13%), and Secondary infection (8%), with nil mortality.

In Ratnottar J et al study 2, the most common type was Amoebic liver abscess (88%) and strong correlation was observed with addiction to alcohol, h/o diabetes mellitus & low SES. Most common etiology for Pyogenic liver abscess was *Escherichia coli*. Ultrasonography of the abdomen was the accurate & cost-effective in diagnosing liver abscesses. Most effective method of treatment was percutaneous catheter drainage with 100% success rate.

In Ghosh S et al study 3, Solitary abscesses were found in amoebic & tubercular with predominant right lobe involvement in amoebic and predominant left lobe in tubercular abscess, and multiple abscesses were found in Pyogenic. Percutaneous needle aspiration gave cure in 79% cases where Pigtail drainage in 17%. Surgical intervention was needed due to rupture in 4%. Mortality was 2.5%.

In Gupta A K et al study 4, Majority were male (91.2%). For aspiration, Catheter drainage (pig tail catheter, K-90) gave 100% results and Tube drainage (K-90) by trochar cannula gave 44.1% result.

Similar findings regarding liver abscess presentations and management modalities were reported in several national and international studies⁶⁻¹⁰

CONCLUSION:

- The present study was carried out on patients with Liver abscess. Of the total liver abscess cases in the study, Amoebic LA were predominant. Male gender & substance usage was comparatively more in Amoebic LA and other socio-demographic details were almost same for both groups. With respect to presenting complaints, management modalities, and outcome of management, Amoebic LA and Pyogenic LA showed similar findings. However, need for exploratory laparotomy and recurrence of the abscess up on follow-up were more common among those with Pyogenic LA.

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