

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Study Of Clinical Profile And Management Of Hepatic Abscess.

Dhiraj Sagrule, Swapnil Kolpatwar, and R Siddharth*.

Department of Surgery, IGGMC, Nagpur, Maharashtra, India.

ABSTRACT

Our study aimed to study the clinical characteristics, presentation, and management outcomes of hepatic abscess in a tertiary care hospital setting. A hospital-based longitudinal study was conducted enrolling 80 patients diagnosed with liver abscesses. Data on demographics, clinical presentation, diagnostic findings, and treatment modalities were collected and analyzed. Amoebic liver abscess (ALA) was predominant, accounting for 58.75% of cases, compared to 41.25% of pyogenic liver abscesses (PLA). The mean age of presentation was 43.27 years, with a peak incidence in the 41-50 age group. Common presenting symptoms included abdominal pain (97.50%) and fever (74.47%). Treatment modalities varied, with aspiration being the most common intervention. The distribution of treatment modalities differed between ALA and PLA cases. Our study provides insights into the epidemiology, clinical presentation, and management of hepatic abscess. Understanding regional variations and etiological factors is crucial for guiding diagnostic and therapeutic approaches in clinical practice.

Keywords: Hepatic abscess, Clinical profile, Management

<https://doi.org/10.33887/rjpbcs/2024.15.2.55>

**Corresponding author*

INTRODUCTION

Hepatic abscess, a localized collection of pus within the liver parenchyma, presents a significant challenge in clinical practice due to its diverse etiology, variable clinical presentation, and potential for life-threatening complications. Despite advances in medical imaging, antimicrobial therapy, and interventional techniques, hepatic abscess remains a formidable entity associated with considerable morbidity and mortality worldwide [1, 2]. The epidemiology of hepatic abscess has evolved over time, with changes in predisposing factors such as the widespread use of antibiotics, increasing prevalence of chronic liver disease, and rising rates of invasive procedures. This dynamic landscape underscores the importance of understanding the contemporary clinical profile and management strategies for this condition [3-5].

The clinical presentation of hepatic abscess can range from subtle symptoms such as fever and malaise to more severe manifestations including abdominal pain, jaundice, and septic shock [6]. The diverse array of presenting features often poses a diagnostic challenge, necessitating a high index of suspicion and a multidisciplinary approach to evaluation and management [7].

In this review, we aim to comprehensively explore the current understanding of the clinical profile, etiological factors, diagnostic modalities, and therapeutic options for hepatic abscess. By synthesizing existing evidence and clinical experience, we seek to provide insights that can inform clinical decision-making and optimize outcomes for patients afflicted with this complex condition.

METHODOLOGY

The study was conducted as a hospital-based longitudinal investigation at a tertiary care facility for one year duration. A total of 80 patients were enrolled, meeting the inclusion criteria of radiologically diagnosed liver abscesses, regardless of age or mode of presentation. There were no exclusion criteria set for patient selection.

Upon enrolment, patients underwent a comprehensive assessment, starting with a detailed history-taking and thorough physical examination, focusing on abdominal and chest regions. Additionally, specific investigations were performed, encompassing hematological parameters such as hemoglobin (Hb), total leukocyte count (TLC), differential leukocyte count (DLC), liver function tests, coagulation profile, and serological tests for hepatitis B surface antigen (HBsAg), HIV, as well as fasting and postprandial blood sugar levels. Radiological evaluation included abdominal ultrasound and chest X-ray, while microscopic examination and culture of aspirated pus were conducted to identify the causative pathogens.

Based on the gathered clinical and investigative findings, patients were categorized into different intervention modalities tailored to their individual presentations and needs. These interventions encompassed a spectrum of approaches, including medical management and various interventional procedures. Throughout the study period, patients were meticulously followed up clinically, hematologically, radiologically, and microbiologically to assess treatment response and monitor for any potential complications, ensuring comprehensive management and optimal outcomes.

RESULTS

It was seen that about 47 (58.75%) cases belonged to amoebic liver abscess as compared to 33 cases (41.25%) of pyogenic liver abscess.

Table 1: Types of abscesses

Type of abscess	Frequency	Percent
Amoebic liver abscess	47	58.75%
Pyogenic liver abscess	33	41.25%
Total	80	100.00%

Youngest patient was of 4 year of age and oldest was of 72 yrs. of age. The mean age of presentation was 43.27Yrs. Liver abscess was most commonly found in age group of 41-50 (35.00%).

Second most common group was 31-40 yrs. Of age (23.75%). 41-50 was the most common age group for both amoebic and pyogenic type.

Out of all 43 cases of amoebic liver abscess 41(87.63%) were male and of all 33 cases of pyogenic 31(93.94%) were male. The ratio of male and female was found to be almost same in amoebic and pyogenic liver abscess.

All the patients included in study were asked regarding episodes of abdominal pain and was noted. It was found that 79 out of 80 cases (97.50%) had complaints of abdominal pain on day of admission. Only one out of all cases came with primary complaints of diarrhea and was evaluated in medicine OPD and was later sent to surgery OPD for finding of liver abscess on ultrasonography. After putting patient on appropriate modality of treatment the episodes of abdominal pain was taken in to consideration and number of patients complaining of pain in abdomen were found to be reduced as compared to day of presentation. All the patients who were asymptomatic were discharged and were considered as asymptomatic in later part of study as well.

Similar to abdominal pain fever was also noted in all patients according to day of admission and their number was noted. About 74.47% and 81.82% of amoebic and pyogenic liver abscess respectively were having fever on day of presentation.

Table 2: Showing number of patients with presenting signs on the day of admission.

Sign	Number Of Patients	Percent
Tachycardia	55	68.75%
Fever	62	77.50%
Pallor	21	26.25%
Edema	17	21.25%
Icterus	12	15.00%
Tachypnea	25	31.25%
Intercostal tenderness	63	78.75%
Abdominal Tenderness	69	86.25%
Guarding	15	18.75%
Rigidity	12	15.00%
Hepatomegaly	53	66.25%
Splenomegaly	8	10.00%

Table 3: Showing various modes of treatment used in various patients

Modality of treatment	Frequency	Percent
Conservative management	6	7.50%
Aspiration	40	50.00%
Pigtail Catherisation	20	25.00%
Surgical drainage	14	17.50%
TOTAL	80	100.00%

Table 4: Showing various modes of treatment used in various patients according to type of abscess.

Management	Amoebic liver abscess	Pyogenic liver abscess	Total
Conservative management	5	1	6
Aspiration	26	14	40
Pigtail	14	6	20
Surgical drainage	2	12	14
Total	47	33	80

DISCUSSION

Firstly, the predominance of amoebic liver abscess (ALA) over pyogenic liver abscess (PLA) in this study population underscores the significance of geographical and epidemiological factors in the etiology of hepatic abscess. The higher prevalence of ALA, accounting for 58.75% of cases compared to 41.25% of PLA cases, aligns with the endemic nature of amoebiasis in certain regions. This emphasizes the importance of considering regional epidemiology when evaluating patients with hepatic abscess and underscores the need for targeted diagnostic and management strategies tailored to the predominant etiology [8].

The demographic profile of patients in this study reveals a wide age range, from 4 to 72 years, with a mean age of 43.27 years. The peak incidence of hepatic abscess occurred in the age group of 41-50 years, followed by the age group of 31-40 years. This distribution is consistent with previous literature suggesting that hepatic abscesses are more common in middle-aged adults. Interestingly, the most common age group for both ALA and PLA was 41-50 years, indicating a similar age distribution regardless of etiology. Gender distribution showed a predominance of males in both ALA and PLA cases, with males accounting for 87.63% and 93.94% of cases, respectively. This observation suggests a potential gender-related susceptibility to hepatic abscess, although further research is needed to elucidate underlying mechanisms [9].

The clinical presentation of hepatic abscess typically includes abdominal pain and fever, which were reported in 97.50% and 74.47% of cases, respectively, on admission. Additionally, other signs such as tachycardia, abdominal tenderness, and hepatomegaly were commonly observed. These findings highlight the importance of a thorough clinical evaluation, including physical examination and assessment of vital signs, in the diagnosis and management of hepatic abscess [10, 11].

Anemia is a common finding in patients with hepatic abscess and can range from mild to life-threatening. In this study, the distribution of anemia severity varied, with moderate anemia being the most prevalent category. The presence of anemia underscores the systemic impact of hepatic abscess and highlights the importance of comprehensive management strategies that address both local and systemic manifestations.

Regarding treatment modalities, aspiration was the most frequently employed intervention, followed by pigtail catheterization and surgical drainage. Conservative management was utilized in a minority of cases. The choice of treatment modality depended on various factors, including the size and location of the abscess, clinical stability of the patient, and institutional expertise. Interestingly, the distribution of treatment modalities differed between ALA and PLA cases, with a higher proportion of ALA cases undergoing aspiration compared to PLA cases, whereas surgical drainage was more common in PLA cases. This suggests that the choice of treatment modality may be influenced by the underlying etiology and clinical characteristics of the abscess. Microscopic examination and culture of aspirated material play a crucial role in guiding antimicrobial therapy and identifying the causative pathogens. However, the specific microbiological profile of hepatic abscesses was not provided in this study and warrants further investigation.

CONCLUSION

In conclusion, this study provides valuable insights into the clinical profile and management of hepatic abscess, highlighting the importance of considering etiological factors, demographic characteristics, and clinical presentation in guiding diagnostic and therapeutic approaches.

REFERENCES

- [1] Ochsner A, DeBakey M, Murray S. Pyogenic abscess of the liver: II. An analysis of forty-seven cases with review of the literature. *The American Journal of Surgery* 1938;40 (1):292-319.
- [2] Greenstein AJ, Lowenthal D, Hammer GS, Schaffner F, Aufses Jr AH. Continuing changing patterns of disease in pyogenic liver abscess: a study of 38 patients. *American Journal of Gastroenterology* 1984;79(3).
- [3] A. Cuschieri, G. R. Giles, and A. R. Moosa, *Essential Surgical Practice*, Butterworth Heinemann, London, UK, 3rd edition, 1995.

- [4] Yu SC, Ho SS, Lau WY, Yeung DT, Yuen EH, Lee PS, Metreweli C. Treatment of pyogenic liver abscess: prospective randomized comparison of catheter drainage and needle aspiration. *Hepatology* 2004;39(4):932-8
- [5] Bismuth H. Surgical anatomy and anatomical surgery of the liver. *World Journal Of Surgery* 1982;6(1):3-9
- [6] Sherlock S, Dooley J. Diseases of the liver and biliary system. John Wiley & Sons; 11th ed. Italy: Blackwell publishing. 2002. p. 1 - 16.
- [7] Surgery of the liver and biliary tract. Blumgart L H; vol II (3'd ed): 1 147-66.
- [8] Aphorisms, 45 Sect. 7,(IN) Adams -The Genuine Works of Hippocrates, Williams and Wilkins Co,1959
- [9] Napier LE. The Principles and Practice of Tropical Medicine. The Principles and Practice of Tropical Medicine. 1946.
- [10] Martinez Beez, M, Proc.Intert. Conf. on Amoebiasis, Oct.1975,53rd Ed.:277-278.
- [11] Encyclopedia Americana (International Edition), 1970, Vol. 4.1284.