



**ORIGINAL RESEARCH PAPER**

**General Surgery**

**A STUDY OF MANAGEMENT MODALITIES OF LIVER ABSCESS**

**KEY WORDS:**

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**ABSTRACT**

**Background:** Liver abscess is an acute suppurative infectious disease of liver parenchyma. It can occur due to direct blood spread through enterohepatic circulation or due to ascending infection occurring through biliary tree. aim was to analyze the prevalence of liver abscess based on age and sex, the different etiological factors contributing to liver abscess and To assess the clinical presentation and various management approaches for liver abscess. **Methods:** Prospective study for a period of 2 years from November 2022 to October 2024 Who presented to general surgery department and diagnosed with liver abscess. **Results:** In this study, 17 patients received only medical treatment, while 28 underwent interventional procedures, and 5 required open surgical intervention. Among the interventional procedures, 10 patients (20%) were treated with percutaneous aspiration, whereas 18 patients (36%) underwent pigtail catheterization. **Conclusion:** Liver abscess is a significant clinical condition that requires timely diagnosis and appropriate management. Ultrasound imaging is essential for both detection and treatment guidance. Medical therapy is effective for small abscesses, while minimally invasive procedures offer a safe and efficient option for larger ones. Surgical intervention is reserved for severe cases, such as ruptured abscesses or non-responsive patients. A stepwise approach combining medical, interventional, and surgical treatments ensures the best patient outcomes.

**INTRODUCTION**

A liver abscess is a localized encapsulated collection of pus within the liver, caused by bacterial, fungal, or parasitic infections<sup>1</sup>. In tropical regions, pyogenic and amoebic liver abscesses are common and contribute to high morbidity and mortality<sup>2</sup>. Individuals with compromised immunity, such as those with diabetes, HIV, or undergoing cytotoxic therapy, are at higher risk<sup>3</sup>. Symptoms include fever, right upper quadrant pain, tenderness, hepatomegaly with or without jaundice<sup>4</sup>. Ultrasound and CT scans are the gold standards<sup>5</sup> for diagnosis. Medical therapy<sup>6</sup> is first line treatment for amoebic liver abscess, but some cases require drainage. Minimally invasive techniques like percutaneous catheterization<sup>7</sup> and needle aspiration have shown success rates of 80–100%, reducing the need for surgery.

**Aims and Objectives**

1. To analyze the prevalence of liver abscess based on age and sex.
2. To examine the different etiological factors contributing to liver abscess.
3. To assess the clinical presentation and various management approaches for liver abscess

**Patients and Method**

**Design of Study :** Prospective study for a period of 2 years. from November 2022 to October 2024

**Inclusion Criteria:**

1. In patients who were diagnosed with liver abscess,
2. Patients aged 18 years and above.

**Exclusion Criteria:**

1. Patients with age less than 18 years.
2. Patients with immunocompromised state.

**Sample Size :** 50

**Sampling :** The patients attended Dr.PSIMS & RF.

**Data Collection:** All cases of Liver abscesses presenting to the Surgery OPD, Casualty of Dr.PSIMS & RF, referred from medical wards of Dr.PSIMS & RF hospital, or referred from outside diagnosed as a case of liver abscess over a period of 2 years with Clinical / Sonological /CT features of liver abscess

**Study Variables:** Age, Sex, Symptoms, Signs, Routine investigations, radiological investigations, various modalities of management.

**Data Management and Statistical Plan for Evaluating the Results:**

A study at Dr. Pinnamaneni Siddhartha Institute of Medical Sciences & Research Foundation (Dr. PSIMS & RF) in Chinnaoutupalli is collecting data from patients aged 18 and above attending the General Surgery Outpatient Department, Casualty, and Inpatient Department. The study includes individuals of all genders, backgrounds, and socioeconomic statuses. Patients are evaluated and followed up according to a specific protocol.

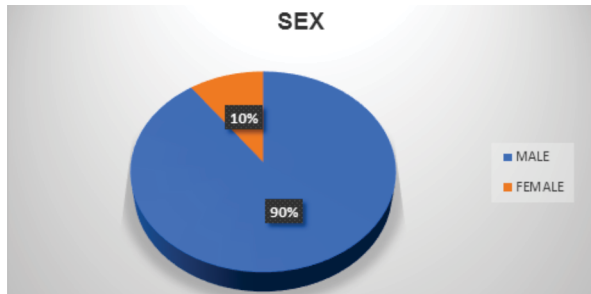
**OBSERVATION AND RESULTS**

This is a clinical study of 50 cases of liver abscess done over a period of two years from November 2022 to October 2024.

**Age Distribution**

Patients in this study are aged between 20 to 60 years. Incidence was highest with 24 patients (48%) in the fifth decade of life.

**Sex Distribution**



**Fig 1 : Sex Incidence Among the Study Group**

In our study, 90% of liver abscess cases were male, with a male-to-female ratio of 9:1.

**Clinical Symptoms**

**Table - 1 :**

Symptoms	No.of Patients	Percentage
Pain abdomen	48	96%
Fever with chills	39	78%
Vomiting	25	50%
Anorexia	32	64%
Weight loss	22	44%
Cough	15	30%
Diarrhoea	14	28%

**Clinical Signs**

**Table - 2**

Signs	No.of Patients	Percentage
Pallor	32	64%
Icterus	15	30%
Pedal edema	11	22%
Tachycardia	33	66%
RUQ Tenderness	45	90%
Hepatomegaly	36	72%

In a study of 50 liver abscess cases, 90% exhibited right upper quadrant tenderness, 72% had hepatomegaly, 66% presented with tachycardia, 64% showed pallor, 30% had icterus, and 22% experienced pedal edema

**Prevalence of Various Haematological Investigations**

On Routine hematological investigations, most of the patients in our study showed leucocytosis 39(78%). Raised alkaline phosphatase was seen in 36(72%), anemia and hypo-albuminemia in 30(60%) patients and hyper-bilirubinemia in 15(30%) patients.

**Site Of Abscess (Sonological)**

Prevalence of right and left lobe abscesses in the study group , 84%(42) of liver abscess cases were confined to the right lobe, 6%(3) to the left lobe, and 10%(5) involved both lobes.

**Number Of Abscesses (Sonological)**

Prevalence of solitary abscess and multiple abscesses In the present study are, 36 cases (72%) had a solitary abscess, 14 (28%) cases showed multiple abscesses.

**Mode Of Management**

In this study, 17 patients received medical treatment alone, 28 underwent interventional procedures, and 5 required open surgical intervention. In the present study, 10(20%) patients were treated with percutaneous aspiration and 18 (36%) patients were treated with pigtail catheterization.

All patients who underwent interventional procedures showed positive outcomes, with progressive resolution and no significant complications. Image-guided interventions (aspiration or catheterization) were found to be safe, cost-effective, and efficient treatment options for liver abscesses. Exploratory laparotomy for open drainage was necessary in 10% of cases due to abscess rupture.

**DISCUSSION**

A liver abscess is a pus-filled cavity within the liver, resulting from the invasion and multiplication of microorganisms. It is a significant gastrointestinal condition, particularly in tropical regions. The infection can spread to the liver through direct injury, adjacent structures, the bloodstream, or the biliary system. Liver abscesses are primarily classified into two types: amoebic and pyogenic. They are more prevalent in men aged 20 to 50 but can occur at any age. Common symptoms include a continuous dull pain in the right upper quadrant of the abdomen, which may radiate to the scapular region or right shoulder, and fever.

Advancements in interventional radiology, intensive care, antibiotic therapy, and the widespread use of sonography and computed tomography (CT) scanning have led to earlier detection and improved treatment outcomes for liver abscess patients. The ability to drain a liver abscess through interventional procedures, such as ultrasound-guided percutaneous drainage, has significantly enhanced management strategies. Consequently, there has been a shift towards nonsurgical methods, with studies indicating that many patients can be effectively treated with a combination of parenteral antibiotics and ultrasound-guided percutaneous treatment.

**SUMMARY & CONCLUSION**

Liver abscesses predominantly affect males in their fifth decade of life, possibly influenced by high alcohol consumption among men. Ultrasound imaging is a vital, non-invasive tool for diagnosing liver abscesses, determining their size, location, and number, guiding catheter placement, and monitoring patient progress.

Management depends on abscess size and severity. Medical therapy with antibiotics alone is effective for abscesses smaller than 5 cm . Minimally invasive interventions, such as percutaneous aspiration and pigtail catheterization, are safe, cost-effective, and effective for larger abscesses. Surgical intervention is required primarily for ruptured abscesses or patients unresponsive to other treatments. A stepwise approach, combining medical therapy, image-guided procedures, and surgery when necessary, ensures optimal patient outcomes.

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