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## **Diagnosis and management of liver abscess in SCB medical college & hospital: A clinical study**

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**Abstract**---Aim: The present research aims to study clinical presentation of liver abscess in relation to demographic features, risk factors as well as effectiveness of treatment methods. Methodology: This present study was carried out in 60 patients suffering from liver abscess. Patients who were above 18 years of age were included in the present study for a period of one and half years (October 2018 to March 2020). They were treated by medical/image guided drainage/surgical (open drainage) based on the site, size and other clinical parameters of lesion. Follow up was done once in 2 weeks for first 2 months and then on a monthly basis after discharge. Results: In this study, out of 60 patients, liver abscess are present in 47 males (78.3%) and 13 are females (21.7%). Overall, most common presentation of liver abscess in our institution was abdominal pain

(44%), then fever (31%). Abscess was mostly located in right lobe was 53 cases (88.3%) and most of the abscesses were solitary (90%). Conclusion: Intensive care, and use of effective antibiotic therapy have resulted in a decline in the mortality rates of liver abscess in India from 24% in earlier series to 1% to 3% in more recent studies.

**Keywords**--liver abscess, pyogenic, mortality, acute abdomen.

## Introduction

Liver abscess was described early in 460-377 B.C. by Hippocrates, still it remains a challenging situation (especially in tropical countries due to poor hygiene & sanitation, alcoholism and reduced literacy rate) due to its highly variable presentation, causing diagnostic difficulties. As India is a one of the tropical country and home to 400 million people harbouring *E. histolytica*, the causative organism of amoebic liver abscess, it is important to thoroughly understanding of the liver abscess. Patients with liver abscess who require aspiration irrespective of the etiology includes abscess with size > 5 cm, both lobes of the liver involved and duration of symptoms >1 week and advanced age. Abscesses smaller than 5cm size were treated with parenteral antibiotic therapy while those larger than 5cm size were treated by image guided percutaneous aspiration/drainage. Large abscesses >10cm and multi-loculated abscesses with exaggerated necrotic process were managed by open surgery. Hepatic abscesses, both pyogenic and amoebic, becomes the important cause of morbidity and mortality in tropical countries. Although the primary mode of treatment of amoebic liver abscess is medical, amoebic abscesses (15%) are not responding to medical therapy. Secondary bacterial infection occurs in 20% of amoebic liver abscesses. Thus, drainage may be required in those cases with amoebic liver abscesses. For most intra-abdominal abscesses percutaneous drainage is now considered as the standard treatment of choice. Ultrasound & CT are the mainstay in the diagnostic modalities for hepatic abscess. The sensitivity of ultrasound in diagnosing hepatic abscess is around 80-95%. The sensitivity of CT abdomen in diagnosing hepatic abscess is around 95-100%. Yeoh Kg et al-National University Hospital, Singapore, Reviewed 41 cases from 1994 to 1998 (67%) pyogenic, 6 (15%) amoebic, 2 (5%) tuberculosis, 6(15%) intermediate. Percutaneous needle aspiration was performed for 85% of pyogenic abscess, and surgery was indicated in only two cases because of complications. They found that percutaneous aspiration of liver abscess not only help to confirm the diagnosis but also to uncover clinically unsuspected conditions like malignancy and tuberculosis which may mimic liver abscess.<sup>1</sup> Singh et al Department of Surgery Patna Medical College Hospital India reviewed 220 cases of amoebic liver abscess between 1981-86. the majorities were young middle aged males belonging to lower socioeconomic group and 85% gave history of drinking toddy fermented palm juice. Over 88% responded well to conservative treatment with aspiration.<sup>2-4</sup> Laparotomy was required in slightly over 10% of cases and in these the mortality was 12% as compared to 2% with conservative treatment. Most hepatic abscesses involve the right lobe of liver (postero-superior segment), accounting for three-fourth of the cases, in 20% of cases the left lobe is involved and in rare cases caudate lobe is

involved. Most of the pyogenic abscesses are polymicrobial in nature and account for about 40% of the cases. In pyogenic liver abscess *Escherichia.Coli* and *Klebsiella.pneumonia* most commonly cultured organisms. The classic description of the presenting symptoms of liver abscess are fever, jaundice, and right upper quadrant pain & tenderness. A recent study from Taiwan of 133 patients found fever in 96% of the patients, chills in 80%, abdominal pain in 53%, and jaundice in 29%.<sup>5-7</sup> Due to the rising incidence in alcoholism, diabetics & immunocompromised status, liver abscess becomes a matter of grave concern as complications rate are high especially in this sub-group, leading to increased morbidity and mortality. Due to the advancement in imaging modalities, a more concrete picture to treat liver abscesses is slowly evolving. Therefore, it is relevant to develop appropriate & realistic guidelines for early diagnosis and management strategies for liver abscesses in order to reduce the morbidity and mortality associated with it.

### **Aim of the Present Study**

The aim of the present research is to study clinical presentation of liver abscess in relation to demographic features, risk factors as well as effectiveness of treatment methods.

### **Methodology**

This present study was carried out in 60 patients suffering from liver abscess with ultrasonographic confirmation of diagnosis, arriving in surgery OPD of our institution in SCB MCH. Patients who were above 18 years of age were included in the present study for a period of one and half years (October 2018 to March 2020) after taking detailed history and blood investigations like -CBC, LFT etc. Patient were informed about any surgical procedure and proper informed consent was taken and were treated by medical/image guided drainage/surgical (open drainage) based on the site, size and other clinical parameters of lesion after taking ethical clearance. USG Abdomen was repeated on the 3rd day if patient symptomatically not relieved. Follow up was done once in 2 weeks for first 2 months and then on a monthly basis after discharge so as to look for recurrent attacks or for the development of complications and to monitor the efficacy of the treatment given.

### **Results**

Totally 60 patients who met the inclusion criteria were studied. The mean age of distribution is 45.95. In this study, out of 60 patients, liver abscess are present in 47 males (78.3%) and 13 are females (21.7%). Overall, most common presentation of liver abscess in our institution was abdominal pain (44%), then fever (31%). (Table 1) In case of pyogenic liver abscess most common presentation was fever, whereas in case of amoebic liver abscess most common presentation was abdominal pain. (Table 2) Abscess was mostly located in right lobe was 53 cases (88.3%) and most of the abscesses were solitary (90%).

Out of 60 patients in our study, 11 patients (18%) responded to medical management alone. In this study 27 patients (45%) were treated by image guided

aspiration or drainage. (Table 3) Those who required surgical drainage were 22 patients (37%), who are all not responding to the above modalities of treatment and those with complication. Complications occurred in 22% of people who were not responding to conservative line of management.

## **Discussion**

Most common liver abscess presenting in our institution was amoebic in nature with mean age of presentation was 45 years. Most common presentation of liver abscess was abdominal pain. Most common clinical sign was intercostal tenderness. Alcoholism becomes the most frequently associated risk factor for abscess in liver. Ultrasound and CT scan abdomen plays an important role in diagnosing most of the liver abscess patients presented in our institution. Eighteen percent (18%) of the liver abscess patients were managed successfully with medical management alone. Those who are all not responding to medical management were treated with image guided drainage/aspiration. Forty five percent (45%) of the patients presented in our institution were successfully treated by image guided drainage/aspiration. Those who developed complications (ruptured liver abscess) and who are all not responding to conservative line of management required emergency open drainage. Thirty seven percent (37%) of patients who developed complications on presentation or later were treated with open drainage in our institution.

A recent systematic review found a combination strategy to be effective in reducing the abdominal pain and local tenderness, but not in resolution of fever, healing of abscess, and length of hospital stay, with benefits limited to abscesses of more than 5 cm. Hence routine drainage of abscess is not recommended in patients with ALA but may be used in selected patients with size greater than 5 cm.<sup>8</sup> Percutaneous catheter drainage (PCD) is preferred over percutaneous needle aspiration, particularly in larger abscess (>10 cm), subcapsular location, high risk for rupture, and if superinfected. Even for complications such as rupture into peritoneum, there is evidence that conservative management with PCD results in better outcomes than surgery.<sup>9</sup> The higher mortality associated with surgery combined with the widespread availability of image- guided drainage has limited the role of surgery in the management of ALA. Surgery can be considered in those with no response to appropriate antibiotics and PCD drainage. Clinical and biochemical resolution occurs rapidly in patients with ALA with optimal management. Radiological resolution is often delayed and does not warrant additional therapy. Relapses are uncommon in ALA.<sup>10</sup>

## **Conclusion**

Recent advances in interventional radiology, intensive care, and use of effective antibiotic therapy have resulted in a decline in the mortality rates of liver abscess in India from 24% in earlier series to 1% to 3% in more recent studies.

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## Tables

Table 1- Comparison of clinical features of pyogenic and amoebic liver abscess

Abd.pain	Amoebic	Pyogenic	Total	Chi sq	P
Absent	6	10	16	16.36	0.0001
Present	39	5	44		
Total	45	15	60		

Table 2- Microbiology of liver abscesses

Frequency	Amoebic	Pyogenic
Absent	15	45
Present	45	15
Total	60	60

