

## Clinical Study of Liver Abscess

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### Abstract

Liver abscess is life threatening disease. Liver abscess occurs due to Bacterial, Parasitic, fungal, mixed infection. In this retrospective study 50 cases are admitted and treated in Shree M.P. Shah Medical College, Jamnagar during August 2016 to September 2018. Their age range between 0-80 years with mean age of 49 years. There are 40 Male and 10 Female. Patients having Pre-Morbid condition like Alcohol, Diabetes mellitus, Malignancy and Gall stone. Investigation like liver function tests, Ultrasonography, CT Scan and USG or CT guided aspiration are useful in diagnosis of liver abscess. In this Patients are treated by Antibiotics therapy only, Antibiotic Therapy + Aspiration, Surgical approach. Only antibiotic therapy given to 17 (34%) Patients, out of these 16 patients are cured. Aspiration and Antibiotic therapy (pigtail insertion) given to the 30 (60%) Patients, Surgical approach 3 (6%) Patients. There Pyogenic liver abscess are more common than the Amoebic liver abscess. Most common bacterial infection is Klebsiella > E.coli. Mortality rate in this study 4 patients (8%). Recurrence rate are seen 3 patients (6%). Hospital stay for treatment is average 11-15 Days.

**Keywords:** Liver abscess; pyogenic abscess; amoebic abscess.

### Introduction

Liver abscess is defined as collection of purulent material in liver parenchyma. In developing

countries liver abscesses are common; most result from parasitic infections, such as Amoebic and less commonly other Protozoal and Helminthic organisms.

Liver abscess is a life threatening disease. The classic presentation of fever, right upper quadrant pain and tender hepatomegaly is unusual. Co-morbid conditions associated with pyogenic abscess are Cirrhosis, Diabetes, Chronic renal failure, Immune-suppression, Prolong steroid use, History of malignant disease etc. The mortality for all patients with liver abscess is 1% to 5% but when the abscess ruptures, mortality ranges from 6% to as high as 20% in some studies.

In recent years, diagnosing Liver Abscess and underlying cause of the abscess has been made easier by modern imaging modalities. Liver Abscess management has also changed, with percutaneous drainage and intravenous antibiotics is being now considered safe and effective. Modern treatment has shifted towards IV broad spectrum antibiotics and imaging guided percutaneous needle aspiration or percutaneous catheter drainage. Percutaneous pigtail catheter insertion reduces chances of exploration by surgery for liver abscess. Image guided treatment is either done with the help of Sonography or CT scan. Surgery is indicated in rupture abscess, failure of response of the conservative therapy and needle aspiration, abscess caused by gas forming organisms etc.

### Aims of Study

1. To study incidence of liver abscess.
2. To study the various clinical presentations of cases of liver abscess.

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3. To study other epidemiological factors of liver abscess viz. age, sex, socio-economic status, co-morbid conditions, hospital stay, complications of liver abscess etc.
4. To study importance of various diagnostic tools for liver abscess.
5. To study microbiological profile of liver abscess.
6. To study outcomes of various treatment like antibiotic therapy alone, percutaneous needle aspiration, pigtail catheter insertion, surgery etc.
7. To study its overall impact on healthcare facilities.

of disease with associated symptoms were taken. Liver abscess investigation & treatment like antibiotic therapy only, Percutaneous Aspiration and Surgical approach, In Aspiration, How many times aspiration done and Data of Cause of death was also taken from the Case Paper.

*Inclusion Criteria*

- Patient who were admitted and came for at least 2 follow up.

*Exclusion Criteria*

- OPD base patients.
- Patient who lack follow-up.

**Materials and Methods**

This study included 50 cases of liver abscess admitted and treated in Department of Surgery, M.P. Shah Medical College, Jamnagar during period of August 2016 to September 2018. All patients cases were taken from the medical Record Branch and details about onset duration and progression

**Results**

During study period total number of liver lesion patients admitted in department of Surgery M. P. Shah Medical College, Jamnagar was 545 Patients. Incidence of liver abscess was total 9% (50 patients) over two years study period. In our study Age group ranged between 0 years to 80 years (Fig. 2).

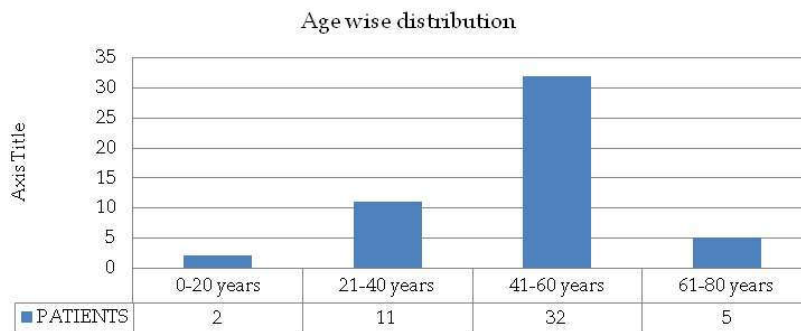


Fig. 1: Age wise distribution (n=50)

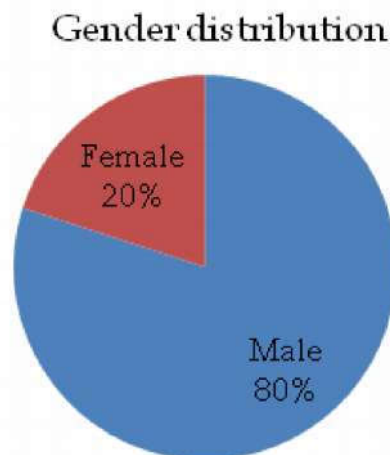


Fig. 2: Gender distribution (n=50)

Out of 50 Patients, 40 patients (80%) were Male and 10 patients (20%) were Female. Out of 50 patients, 22 patients (44%) were from Middle socio-economical class and 25 Patients (50%) was from lower socio economical class. In our study, 33 out of 50 (66%) found to be having >15.5 cm size. It Suggest hepatomegaly - along the long axis of body in liver abscess. In this study 39 out of 50 Out of 50, 9 patients (18%) was alcoholic, 3 patients (6%) having diabetes mellitus, 39 out of 50 (78%) was found to be having leucocytosis, high bilirubin level presents in 28 patients out of 50 (56%), SGPT level more than

50IU seen in 20 out of 50 (40%).

Out of 50 patients, 39 Patient (78%) found to be right lobe of liver abscess & 11 out of 50 (22%) found to be on left lobe liver abscess. In our study on Liver abscess solitary abscess found in 44 cases out of 50 (88%) and Multiple (>2 lesion) were found in 6 cases out of 50 (12%) cases. In our study on liver abscess, 40 out of 50 (80%) found to be having wall thickness less than <5 mm. 10 out of 50 (20%) found to be having >5 mm wall thickness. In our study on liver abscess 33 out of 50 (66%) found to be having liquefied and 17 out of 50 (34%) found

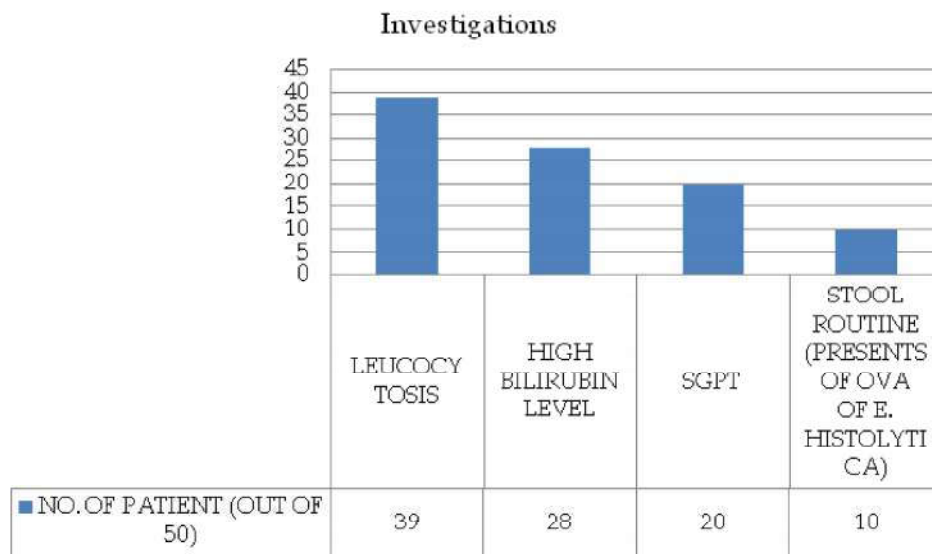


Fig. 3: Investigation (n=50)

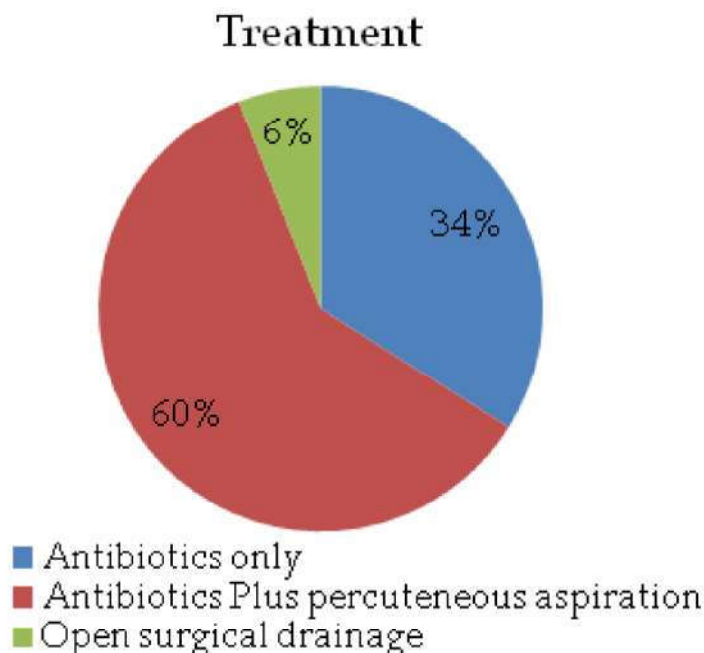


Fig. 4: Treatment (n=50)

## Microbiological data

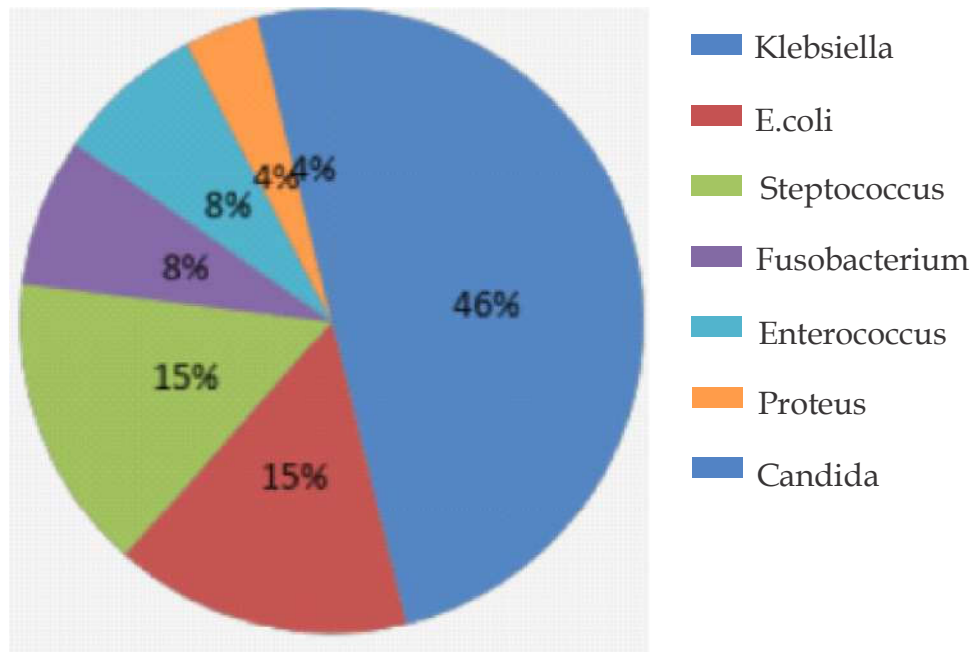


Fig. 5: Microbiological data (n=50)

to be having solid content. In this study, 3 Patients out of 50 (6%) patients were found to be having Rupture Peritonitis and 4 Patients out of 50 (8%) patients were found to be having Empyema, 10 out of 50 (20%) Patients found to be having Plural effusion in this study, 17 out of 50 (34%) were found to be treated with antibiotics only. 30 out of 50 (60%), were found to be treated with antibiotics plus percutaneous aspiration & 3 patient out of 50 (6%) operated for the liver abscess. Out of three patient, one patient also under gone pig tail catheter insertion. The microbe responsible could be identified in 26 cases. Most common microbe is Klebsiella seen in 12 cases out of 26 (46%). E. Coli 2<sup>nd</sup> most common microbe seen in 4 cases out of 26 (15%). Amoebic liver abscess was found in 11 patients out of 50 (22%). In amoebic liver abscess aspirate pus looks like Anchovy Sauce.

In our study, 1 out of 50 (2%) Mortality encountered into medical treatment group this is not due to liver abscess but due to associated co morbid condition malignancy and 3 out of 50 (6%) mortality encountered into antibiotics plus percutaneous aspiration PLUS surgical approach.

### Discussion

During study period total number of liver lesion patients admitted in department of surgery M.P. Shah Medical College, Jamnagar was 545 Patients.

Incidence of liver abscess was total 9% (50 patients) over two years. In our study age range between 0 to 80 years. In 41-60 years age group 32 patients found to be have liver abscess the mean age was 49 years. There is some age relation with occurrence of liver abscess. Mohhmmad rehan khan reported mean age 42 years. Dr. P. Malik reported mean age 41 years.

There were 40 Male and 10 Females. Out of 50 patients, 22 patients (44%) was from middle socio economic class and 25 patients (50%) was from lower socio economical class. In Pre-morbid condition of liver abscess is associated alcohol is 18% with type 2 diabetes mellitus seen in 6% case. This compared with study group of the Dr. Mohhmad rehan khan in which alcohol habit was seen in 89% and diabetes mellitus was seen in 18% and Dr P. Malik study in which alcohol habit was seen in 50% and diabetes mellitus seen in 4%. liver abscess disease, leucocytosis which is seen in 78% of the patients and hyperbilirubinemia seen in 56% patients. Which was compared with study group of the Dr. Mohhmad rehan khan in which leucocytosis seen in 78% patient and hyperbilirubinemia seen in 35% patient and in which Dr P. Malik study leucocytosis seen in 88% patients and hyper bilirubinemia seen in 15% patients.

Liver abscess is associated with type 2 diabetes mellitus seen in 6% case. Pleural effusion is seen in 22% of patients, Elevated Right Dome of Diaphragm which is seen in 30% of patients, Lung

Collapse is seen in 4% of patients which compared with Dr. Mohhmad rehan khan study, in which pleural effusion was seen in 25% and elevated dome of diaphragm was seen in 24% patients. out of 50 patients 39 (78%) were having abscess on right side of lobe and 11 (22%) patient having abscess on left side lobe of liver. This compared with study of Dr. Mohhmad rehan khan in which right lobe was involved in 80% and left lobe was involved in 36% and both lobes were involved in 2% patients and Dr.P. Malik study right lobe involvement was seen in 76% patients and left lobe involvement seen in 14% and both lobe involvement seen in 10% patients. Out of 50 patients 44 (88%) were having solitary lesion of liver abscess and 6 (12%) were having multiple lesion of liver abscess. This compared with study group of the Dr. Mohhmad Rehan Khan in which 72% patient have soliatary lesion and 38% patients have multiple lesion and Dr P. Malik study have 92% solitary lesion and 8% multiple lesions. Most common complication of rupture of liver abscess (ascites) seen in 6% of patients, also other complication pleural effusion which is seen in 20% of our study. This compared with study group of the Dr. Mohhmad rehan khan having pleural effusion 35% and Rupture peritonitis seen in 5% patients. and Dr. P. Malik study having rupture in peritoneal cavity 3% and pleural effusion 5%.

In our study, 17 out of 50 (34%) were found to be treated with antibiotics only. 30 out of 50 (60%), were found to be treated with antibiotics plus percutaneous aspiration & 3 out of 50 (6%) patient operated for the liver abscess. Out of three patient one patient also under gone pig tail catheter insertion. In study of Dr. Mohhmad rehan khan 38% patients were treated with only antibiotic, 49% patients were treated with antibiotic + Percutaneous aspiration and 4% patients were treated as open surgery. Dr. P. Malik study 56% patient treated by antibiotic only. 62% patient treated by antibiotic+percutaneous aspiration. 2% patient treated by open surgery. Most commonly found liver abscess is amoebic abscess, which is having a anchovy sauce, other type pyogenic abscess are seen in which Klebsiella is most common organism found in aspirated fluid culture. E.coli is 2<sup>nd</sup> most common organism found in abscess others are like streptococcus, pseudomonas, fuso-bacterium etc.

In our study, Treatment for Liver Abscess going on for average days around 10 days. Then patients were discharged, Patients kept in touch by follow-up in OPD. Patients came on follow-up on 3 days, 1 week, 2 week, 1 month, 2 month, 6 month.

In our study, Mortality is seen in 4 patient out of 50 (8%). 1 Mortality encountered into medical treatment group and 3 mortality encountered into antibiotics plus percutaneous aspiration, Total around 8% mortality noted. This were to be compared with the group study of Dr. Mohhmad rehan khan. In which 2.5% mortality rate seen and In study of Dr. P. Malik, in which 8% mortality rate seen.

### Conclusion

In this retrospective study 50 cases are admitted and treated in Shree M.P. Shah Medical College, Jamnagar during August 2016 to September 2018.

Liver abscess is one of the common pathology affecting people in developing country. Previously it used to carry higher mortality rate. Due to development of newer and better radiological techniques now early and accurate diagnosis is possible. Percutaneous treatment combined with antibiotics is quite safe and effective treatment of liver abscess. Surgery usually reserve for complicated abscess like rupture etc. Which still having relative to high mortality. Early diagnosis, Timely intervention, Newer and Better antibiotics have decreased morbidity and mortality associated with liver abscess but as wisely said.

*"Prevention is better than Cure"*

Early diagnosis and treatment of causative factor, Better management of risk factor etc. are key to decrease incidence of liver abscess and associated morbidity and mortality.

### References

1. McCarthy JS, Peacock D. Trown KP. et al. Endemic invasive amoebiasis in Northern Australia. Med J Aust. 2002 Nov 18;177(10):570.
1. Ochsner debakey. Murrays:pyogenic abscess of the liver. Amisurg. 2008;40:292-319.
2. Johannsen EC, Sifri CD, Madoff LC. Pyogenic liver abscesses. Infect Dis Clin North Am. 2000 Sep;14(3):547-63.
3. Yu sch, Ho Ssm, Lauwy, et al. treatment of pyogenic liver abscess prospective randomized comparison of catheter drainage and needle aspiration. Hepatology. 2004;39:932-938.
4. Alvarez ja, Gonjalezij, Baldonedorf, et al. Single and multiple pyogenic liver abscess etiology, clinical course, and outcome. Dig Surg. 2001;18(4):283-8.

5. Kemparaj T., Mohammed Rehan Khan, Sagar Narayan: Liver abscess presentation and management: a retrospective study. *Int Surg J.* 2017 Feb;4(2):550-554.
  6. P. Malik, H N Lakshmi, M. Rathi, D Saini, R Arya. A Prospective study of Liver abscesses: Clinical Profile and Management of 100 case of SMS hospital in Jaipur, India. *The internet journal of infectious disease.* 2014;13(1).
  7. Gill JK, Vincent, AL, Greene, J.N. sandin. R.L. & Sniffen. J.C. (2002. February 13). Amebic liver abscess. Retrieved July 18, 2010, from Medscape Med students: <http://www.medscape.com/viewarticle/421533>.
  8. Kaplan GG, gregson DB, laupland KB. Population-based study of the epidemiology of and the risk factors for pyogenic liver abscess. *Gastroenterol hepaol.* 2014;2:1032-38.
  9. Rajak CL. Gupta S. Jain S, Chawla Rajak CL. Gupta S. Jain S. Chawla Y, Gulati M. Suri S. Percutaneous treatment of liver abscesses: needle aspiration versus catheter drainage. *Am J Roentgenol.* 1998;170(4):1035-9.
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