

## A CLINICAL PROSPECTIVE STUDY OF LIVER ABSCESS

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### Abstract

**Background:** Liver abscess is a burning problem in tropical nations, with often lethal consequences and diagnostic/therapeutic challenges. **Aims:** To study the etiology, clinical features and management of patients presenting with liver abscess. **Materials and Methods:** Prospective study in department of General Surgery. All age 18 years and above with clinical and radiological diagnosis of liver abscess, with comorbidities like Hypertension and Diabetes mellitus are included in study. **Result:** Most of the patients are presented with fever and pain abdomen as their main presenting complaint followed by Jaundice, and fewer people also have cough & diarrhoea symptoms and in these patient's majority of people have abdominal tenderness and hepatomegaly in their clinical findings followed by icterus and pallor and more than 93.3% of patients have chronic (sub-Acute] duration of Symptoms le > 7 days. It indicates it have chronic etiology. On Radiological findings, evidence of elevated right hemidiaphragm Noticed when compare with Normal individuals diaphragm and also have blunting of costophrenic Angle which indicates reactionary pleural effusion that to most commonly on Ipsilateral side. But in few cases they are incidence of bilateral pleural effusion presence noticed. In ultrasonography solitary abscess have dominance over multiple abscess with right lobe involvement in treatment majority of abscesses require minimal surgical intervention and followed by conservative medication alone with very few patients require surgical exploration, In these study patients require for surgical exploration are mainly complicated with peritonitis features, and very few patient have septicaemia have complication, and patient with septicaemia and peritonitis are died & remaining all patients survived and discharged. **Conclusion:** The liver abscess can be treated conservatively in most of uncomplicated cases & multiple or single, small or medium size abscess, and abscess with complications require intervention in the form of either close or open drainage.

## INTRODUCTION

Hepatic abscess are uncommon but potentially dangerous clinical entity, if clinically early diagnosis and treatment are not accomplished, the Condition uniformly fatal. So rapid diagnosis, effective antimicrobial therapy, treatment of the underlying cause and an orderly approach to the Therapeutic intervention directed towards the abscess Remain the mainstays of care for the patients with a hepatic abscess. There are two common types of encountered are amoebic liver abscess and pyogenic liver abscess

and certain types of abscess merit special attention, and multiple diffuse intra hepatic abscess in the elderly and these are well respond to targeted systemic antibiotics and percutaneous drainage. Amoebiasis is one of the common infection in Developing countries because of lack of good Sanitary facilities and it affects approximately 10% of overall population of world. in Amoebiasis the most common Extra intestinal manifestation is Amoebic Liver abscess and India is an Endemic zone for Amoebiasis. Sometimes it may bring up patient with an Acute abdomen and Requiring Emergency

laparotomy. If Delay in diagnosis lead to Rupture of Abscess with increased Risk of morbidity as well as mortality also.<sup>[1,2]</sup> Pyogenic liver abscess is a rare complication of intraabdominal infection and biliary tract infection. The majority of abscess are polymicrobial and contain anaerobes and this Requires Broad Spectrum antibiotics and it is difficult to differentiate between pyrogenic and amoebic liver abscess in early course because of overlapping of symptoms make this early differentiation difficult. This study was conducted to assess the ethiology, clinical presentation and management of patients presenting with liver abscess.

## MATERIALS AND METHODS

**Study of Design:** Institution based Prospective Study.

**Study Subjects:** All patients presenting to emergency department and surgery OPD with clinical and radiological diagnosis of liver abscess.

**Study Setting:** Department of General Surgery, SVRRGGH-Tirupati

**Study Period:** One year from the time of Scientific committee & IEC approval. **Study Sample:** 30 patients

### Inclusion Criteria

All age 18 years and above with clinical and radiological diagnosis of liver abscess, with

comorbidities like Hypertension and Diabetes mellitus.

### Exclusion Criteria

Pregnant women, patient with bilirubin levels >10 mg/dl, Liver abscess complicated with peritonitis (ruptured liver abscess) and Patients in septicemia shock.

### Method of Collection of Data

A detailed history was taken which includes – mode of onset, duration between onset and presentation. Clinical examination was done. Routine laboratory investigations- Hb, BT, CT, CBC, Serum electrolytes, serology, LFT, RFT, Serum amylase, serum lipase, coagulation profile. Radiology study- Plain chest xray, X ray erect abdomen. Relevant specific investigations – USG Abdomen & CECT Abdomen. Follow up after 2 months of discharge. Blood investigations: Hb, BT, CT, CBC, Coagulation profile, Serum electrolytes, serology, LFT, RFT, Serum amylase, serum lipase. Radiology study- Plain chest x-ray, X-ray erect abdomen. Specific investigations-USG Abdomen, CECT Abdomen Patients fulfilling the inclusion and exclusion criteria are selected. Written and informed consent is taken. Data is entered in pre-designed proforma. Diagnosis is made clinically and confirmed through laboratory and radiological evidence. Based on data collected the result will be analysed using SPSS software and MS EXCEL. Informed and written consent is obtained from all the patients prior to the study. No financial burden on the patient towards investigations and management.

## RESULTS

**Table 1: Age and gender wise distribution**

	Male		Female	
	N	%	N	%
25 – 35	5	20.0%	2	40.0%
36 – 45	8	32.0%	2	40.0%
46 – 55	8	32.0%	0	.0.0%
56 – 65	4	16.0%	1	20.0%
Total	25	100.0%	5	100.0%

Chi square test = 2.43, p=0.48, Not statistically significant

In this present study, the mean age of the study population in years was  $44.53 \pm 10.21$ . 23.3% were in 25-35 years age group, 36-45 years age group were 33.3%, 46-55 years were 26.7%, 56-65 years were 16.7%, 83.3% were male and 16.7% were female. In the present study, out of 25 male participated in the study 20% were in 25-35 years, 32% were in 36-45 years, 32% were in 46-55 years age group, 16% were in 56-65 years. Out of 5 female participants, 80% were in 25 – 45 years age group, 20% in 56-65 years age group. There was no statistically significant difference was observed between male and female with relation to age as the p value calculated to be >0.05.

**Table 2: Distribution of symptoms and signs**

	Frequency	Percentage
Symptoms		
Fever	27	90.0%
Pain abdomen	23	76.7%
Jaundice	15	50.0%
Cough	7	23.3%
Diarrhoea / Dysentery	8	26.7%

Altered sensorium	1	3.3%
Signs		
Icterus	11	36.7%
Pallor	5	16.7%
Hepatomegaly	17	56.7%
Abdominal tenderness	13	43.3%
Cough	7	23.3%
Duration of symptoms		
Acute (< 7 days)	2	6.7%
Sub-acute (7 days – 2 months)	28	93.3%
Total	30	100%
Mean ± SD	14.66 ± 8.23 days	

In the present study, 90% had fever, 76.7% had pain abdomen, 50% had jaundice, 23.3% had cough, 26.7% had diarrhoea/dysentery and 3.3% had altered sensorium. Based on signs, 36.7% had Icterus, 16.7% had pallor, 56.7% had Hepatomegaly, 43.3% had Abdominal tenderness, 23.3% had Cough. Based on duration of symptoms, 6.7% had Acute presentation and 93.3% had chronic presentation. The mean duration of symptoms in days was 14.66 ± 8.23 days. 63.3% had history of Alcohol intake.

**Table 3: Laboratory investigations in present study**

		Frequency	Percentage
Hb%	<11 gm%	20	66.7%
	>11 gm%	10	33.3%
Leucocytosis	< 12000	11	36.7%
	>12000	19	63.3%
RBS	<200 mg/dl	26	86.7%
	>200 mg/dl	4	13.3%
Urea	<60mg/dl	26	86.7%
	>60mg/dl	4	13.3%

In our study, 66.7% had Hb% <11gm% and 33.3% had Hb% >11gm% 36.7% had WBC count <12000. 86.7% had RBS <200 mg/dl and urea <60 mg/dl. The mean serum bilirubin levels was 2.36 ± 1.52. The mean Hb% was 10.71 ± 1.29, mean WBC count was 12386.67 ± 1988.672, mean RBS was 112.8 ± 47.4454 and Mean urea was 34.1 ± 16.39.

**Table 4: Biochemical investigations in present study**

	Frequency	Percentage
<b>Bilirubin</b>		
<1	3	10%
1.1 – 2	14	46.7%
2.1 – 4	8	26.7%
4.1 – 6	4	13.3%
6.1 – 8	1	3.3%
Total	30	100%
Mean ± SD	2.36 ± 1.52	
<b>Alkaline phosphatase</b>		
<147	4	13.3%
>147	26	86.7%
Total	30	100%
Mean ± SD	389.06 ± 192.18	
<b>Albumin levels</b>		
<3.5gm/dl	15	50%
>3.5 gm/dl	15	50%
Total	30	100%
Mean ± SD	3.90 ± 1.24	
<b>SGOT</b>		
<40	19	63.3%
>40	11	36.7%
Mean ± SD	48.46 ± 30.04	
<b>SGPT</b>		

<40	18	60%
>40	12	40%
Mean $\pm$ SD	47.16 $\pm$ 26.37	
<b>PT</b>		
<20 sec	28	93.3%
>20 sec	2	6.7%
Mean $\pm$ SD	14.53 $\pm$ 3.21	

The mean Alkaline phosphatase was 389.06  $\pm$  192.18. Mean Albumin levels were 3.90  $\pm$  1.24. 50% had albumin levels <3.5gm/dl. The mean SGOT was 48.46  $\pm$  30.04. The mean SGPT was 47.16  $\pm$  26.37, Mean PT was 14.53  $\pm$  3.21.

**Table 5: Chest X Ray and USG findings in present study**

	Frequency	Percentage
Elevated hemidiaphragm	14	46.7%
Pleural effusion	6	20.0%
Normal	10	33.3%
USG Findings: Lobe involved		
Right	22	73.3%
Left	4	13.3%
Both lobes	4	13.3%
USG Findings: Solitary and Multiple abscess		
Solitary	18	60%
Multiple	12	40%

Elevated hemidiaphragm was observed in 46.7%, 20% had Pleural effusion on Chest X ray. On USG findings, 73.3% had Right lobe involvement, 13.3% had left lobe involvement and 13.3% had Both lobe involved. 60% had Solitary abscess on ultrasound and 40% had multiple abscesses.

**Table 6: Treatment given in present study**

	Frequency	Percentage
Aspiration	19	63.3%
Conservative	9	30%
Surgical drainage	2	6.7%
Total	30	100%

Aspiration was done on 63.3% of the participants, conservative medication alone management in 30% and Surgical drainage in 6.7%.

**Table 7: Complications in present study**

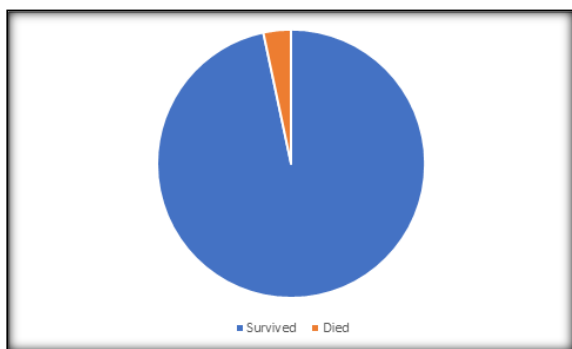
	Frequency	Percentage
Peritonitis	2	6.7%
Septicaemia	1	3.3%
None	27	90%
Total	30	100%

Amongst the complications, peritonitis observed in 6.7% and septicaemia in 3.3%.

**Table 8: Pus culture analysis**

	Frequency	Percentage
Staph aureus	1	3.3%
Negative	29	96.7%
Total	30	100%

Pus culture findings show 3.3% with staph aureus.



**Figure 1. Condition at time of discharge**

In our study, the mortality is 3.3%.

## DISCUSSION

The mean age of the study population in years was  $44.53 \pm 10.21$ , with 23.3 % in the 25-35-year age group, 33.3 % in the 36-45-year age group, 26.7 % in the 46-55-year age group, and 16.7 % in the 56-65-year age group. 83.3% male and 16.7% were female. Out of the 25 men who took part in study, 20% were between the ages of 25 and 35, 32% were between ages of 36 and 45, 32% between ages of 46 and 55, and 16% were between ages of 56 and 65. 80% of five female participants were between the ages of 25 and 45, while 20% were between the ages of 56 and 65. The p value found to be  $>0.05$  indicated that there was no statistically significant difference between male and female in terms of age. Patients in similar study by Saripalli Ammaji et al.<sup>[3]</sup> ranged in age from 20 to 70. Average age was 45. The age group 31-40 old had the highest incidence (27.5%). The age range of 31-50 accounted for 50% of the cases. Lowest frequency was found in the age category of 61-70 (10%), and it was uncommon below the age of 20 years. Males made up 38 of the 40 patients (95%), while females made up 2/40. (5 percent). According to Khee49, the average age was 47.6 years, and according to Antonio Groggio.<sup>[4]</sup> the average age was 45.3 years. According to the Shyam Mattur.<sup>[5]</sup> study, amoebic liver abscess was nine times more common in males 3 than in girls. Cases in the age group of 31-40 years observed in 16 (32 percent) of the 50 patients investigated. Males were predominant 44 (88%) than females, 6 (12%). In this study, Siddhoqui et al.<sup>[6]</sup> found that the average age of liver abscess is  $40.5 \pm 5.97$  years. In this study, 90 % had fever, 76.7 % had abdominal discomfort, % had jaundice, 23.3 percent had cough, 26.7 percent had diarrhoea/dysentery, and 3.3 percent had sensorium Acute presentation in 6.7 percent of cases, while chronic presentation in 93.3 percent. The average number of days that symptoms lasted was  $14.66 \pm 8.23$ . Pain in right hypochondriac region was identified in 38 (76%) instances, and weight loss in 36 cases, according to Siddhoqui et al.<sup>[6]</sup> (72%). Weight loss can be caused by a chronic illness, as well as anorexia, nausea, and vomiting. Nausea was reported in 21 (42%) of the cases, and vomiting in 14 (14%) of the cases (28 percent).

Anorexia was extremely common, occurring in 40 (80%) of the cases. According to the Saripalli Ammaji et al.<sup>[3]</sup> investigation, all of the patients presented within 1-7 days of the onset of symptoms. Symptoms last an average of 2.5 days. In this study, individuals who came within two days had high prognosis and recovery. The most common symptoms in our study were fever (97.5%) abdominal pain (100%). Other symptoms jaundice, diarrhoea, cough, and altered sensorium were found in 30%, 20%, 35%, and 7.5 percent of the participants, respectively. Two patients who died exhibited severe jaundice and sensorium changes, indicating poor prognostic indicators. Fever, abdominal pain, jaundice, cough, and altered sensorium found in 97.2 %, 57 percent, 40.3 percent, 33 percent, and 5% of the cases, according to Khee Siang Chang.<sup>[7]</sup> According to Shyam Mattur.<sup>[5]</sup> 7 percent had diarrhoea. 63.3 percent had a history of drinking alcohol. According to the Saripalli Ammaji et al.<sup>[3]</sup> study, all 38 male patients (95%) in our study had a history of alcoholism (more than 200ml for more than 3 years). As a result of this study, it can be concluded that drunkenness is the most common etiological factor in patients with liver abscess. However, it's probable that it was contaminated by *Entamoeba histolytica* via the faecal route, contributing to the high prevalence of liver abscesses 3 in alcoholics. Alcoholism was discovered in 70% of their cases, according to Shyam Mattur.<sup>[5]</sup> Icterus found in 36.7 percent, pallor in 16.7%, hepatomegaly in 56.7 percent, abdominal discomfort in 43.3 percent, and cough in 23.3 percent. All of the patients in the Saripalli Ammaji et al.<sup>[3]</sup> study exhibited stomach discomfort and fever. Hepatomegaly, icterus, pallor, and respiratory abnormalities found in 55 percent, 30 percent, 27.5 percent, and 45 percent of the participants, respectively. In our investigation, the two patients who died showed significant pallor, icterus, shock, and symptoms of pulmonary abnormalities (decreased breath sounds, basal rales). Hence appearance of pallor, icterus, shock, and respiratory symptoms is associated with poor prognosis. Abdominal discomfort, fever were identified in 80 percent and 70 percent of cases, respectively, according to Shyam Mattur.<sup>[5]</sup> Abdominal tenderness was reported in 90 percent of the cases by Rajak et al.<sup>[8]</sup> According to Khee Siang, Chin Ming7, fever occurred in 97.2 percent of cases. Fever found in 70% of cases, according to Shyam Mattur5. Fever in 88 percent, icterus in 16 percent, according to Sumit Kapadia9. Hepatomegaly in 50% of their patients, according to Antonio Georgio.<sup>[4]</sup> According to Khee Siang, shock in 49.5% of instances. The mean Hb% was  $10.71 \pm 1.29$ , mean WBC count was  $12386.67 \pm 1988.672$ , RBS was  $112.8 \pm 47.44$ , urea was  $34.1 \pm 16.39$ . In our study, 66.7% had Hb%  $<11\text{gm}\%$  and 33.3% had Hb%  $>11\text{gm}\%$  36.7% had WBC count  $<12000$ . 86.7% had RBS less than 200 mg/dl and urea less than 60 mg/dl. Siddhoqui et al.<sup>[6]</sup> reported that The findings of the liver function tests were largely within normal limits.

There was a slight elevation in alkaline phosphatase level in just 4 (33.33 percent) PLA and 10 (26.31 percent) ALA patients. Anemia was seen in both ALA (65.78 percent) and PLA in the current investigation (66.66 percent). At the time of diagnosis, ALA had mild to moderate leucocytosis (92.10 percent), whereas PLA had moderate to severe leucocytosis (100 percent). Saripalli Ammaji et al.<sup>[3]</sup> study reported that The mean Hb of the patients was 10.7 gm/dl within range of 6.0-13.4 gm%. Anaemia more commonly observed in the elderly age group of > 60 yrs. Further all patients who died because of liver abscess in this study were found to be anaemic. There were 4 cases who were > 60 years in this study and except one patient, the rest all were anaemic. Thus anaemia may be an additional factor that may signify bad prognosis along with other adverse factors in deciding the mortality in liver abscess Our study subjects had mean WBC count of 14,265 c/cu mm, with range of 9000-19,000. Diabetes was found in 4 out of every 40 people in this investigation (10 percent). Diabetics were defined as having an RBS of > 200 mg/dl. Patients in this study had mean RBS of 120 mg/dl, ranging from 60 to 390 mg/dl. Increased urea (> 60 mg/dl) discovered in 6/12 (10%) of the cases, with four of them developing multiorgan failure. Raised urea levels indicate multiorgan dysfunction, which is associated with increased risk of death and bad prognosis. According to Antonio Giorgio.<sup>[4]</sup> mean Hb was 11.2 mg% and within range 8- 14 g%. Khee Siang<sup>7</sup> et al reported that leucocytosis was found in 67.3% of patients. According to Steven Huy, B Han, diabetes was the frequent underlying condition in liver abscesses cases. The mean serum bilirubin levels was 2.36 ± 1.52, mean Alkaline phosphatase was 389.06 ± 192.18, Albumin levels were 3.90 ± 1.24. 50% had albumin levels <3.5gm/dl, mean SGOT was 48.46 ± 30.04, T mean SGPT was 47.16 ± 26.37, Mean PT was 14.53 ± 3.21. Saripalli Ammaji et al.<sup>[3]</sup> study reported that 2 patients died of liver abscess in this study had jaundice. Hence raised bilirubin levels may be considered as a marker of bad prognosis in cases of liver abscess. ALP is considered as the single most consistent liver function test is raised in 31 of our study's subjects. Hypoalbuminemia and increased prothrombin time affect two out of every four individuals. Hence e hypoalbuminemia with increased prothrombin time carries a bad prognosis in cases of liver abscess. According to Stephen A et al.<sup>[4]</sup> Hyperbilirubinemia was seen in 10% of their cases. According to Shyam Mattur.<sup>[5]</sup> elevated ALP levels were found in 60-80% of hepatic abscess cases. Hypoalbuminemia was an unfavourable prognostic factor in cases of liver failure, according to Chu KM et al.<sup>[11]</sup> Pus culture findings show 3.3% with staph aureus. Saripalli Ammaji et al.<sup>[3]</sup> study reported that Out of the 40 cases, subjected to laparotomy pus was sent for culture and sensitivity immediately' Anchovy sauce' look of the pus was seen in 32/40 (80%) of the cases, and pus C/S demonstrated no growth. While pus cultures were positive in 20% (8/40) of the cases,

E. coli was isolated in 6/40 (15%) of the cases and Klebsiella was isolated in 2/40 (5%) of the cases. Khee Siang.<sup>[49]</sup> in their study of 107 patients, found positive cultures from pus in 73% and negative cultures in 17%. The most common organism that was isolated in their study was klebsiella pneumonia (65%) followed by 7 E. coli (2%). According to Hiroshi Okano et al.<sup>[56]</sup> pus cultures positive only in 50% of cases and klebsiella in 62% of these cases. Elevated hemidiaphragm was observed in 46.7%, 20 had Pleural effusion on Chest X ray. Saripalli Ammaji et al.<sup>[48]</sup> study reported that of the 18 patients with abnormal Chest X Ray PA view 8 patients developed pulmonary atelectasis in the post-operative period which increased their hospital stay. Hence it can be inferred that patients with preoperative or post-operative pulmonary complication carry bad prognosis. According to D. Lynche, William A. Jensen.<sup>[57]</sup> normal CxRs in 46% of their cases of liver abscesses. While abnormal CxR in 53% of the cases. Right pleural effusion in 30%. Elevated right hemidiaphragm was seen in 27% of the cases. On USG findings, in 73.3% Right lobe involved, in 13.3% left lobe involved and 13.3% had Both 60% had Solitary abscess on ultrasound and 40% had multiple abscess. Saripalli Ammaji et al.<sup>[48]</sup> study reported that Right lobe solitary abscess (72.5%) were more commonly observed in this study. 2 of the 6 patients with left lobe abscess presented as swelling in the upper abdomen which was confirmed by Ultrasound abdomen. Thus a variable presentation of left lobe abscess occurred. Multiple abscess in 11 of 40 (27.5%) cases. Only left lobe involvement in 6 of 40 (15%) cases. involvement of both lobes in 5/40 (12.5%) of cases. Patients having exudative ascites were considered as having ruptured liver abscess. Hepatomegaly was 4 observed in 22/40 cases. According to Chaturbhuj Lal Rajak.<sup>[53]</sup> et al study Solitary abscesses in 72% of patients, while multiple abscesses in 18%. In 72 percent of patients, the abscess in the right lobe, in 12 percent of cases, found in the left lobe. In 20 percent both lobes were involved. According to Chin Ming.<sup>[55]</sup> single abscess in 80.4 percent of cases, right lobe involvement in 65.4 percent, and only left lobe involvement in 16 percent of these instances. Aspiration was done on 63.3% of the participants, conservative management in 30% and Surgical drainage in 6.7%. Saripalli Ammaji et al.<sup>[48]</sup> study reported that Surgical drainage of ruptured liver abscess has been an accepted therapy for decades. All cases were started on metronidazole I.V. (2.0- 2.5 gm/day in divided doses x 8-10days). The treatment was laparotomy, thorough peritoneal lavage and drains were kept for all patients. The duration of hospital stay ranged from 10-16 days. Mean hospital duration was 11.5 days. According to Chin Ming et al.<sup>[55]</sup> hospitalization averaged 58 days. Based on complications, peritonitis observed in 6.7%, septicaemia in 3.3%. Siddhoqui et al.<sup>[52]</sup> reported that Only four ALA patients (10.52%) had right- sided pleural effusion. rupture into peritoneal cavity and pleura, secondary



infection, and septicaemia are possible complications of pyogenic abscess. Saripalli Ammaji et al.<sup>[48]</sup> study reported that 4 patients presented with multi organ dysfunction due to Septicaemia, out of which only two survived. Postoperatively, 8 patients developed pulmonary atelectasis, In the present study 1 patient died due to complications i.e. Septicaemia. The death rate was 6.5 percent, according to Khee-Siang Chan.<sup>[7]</sup> Chin Ming et al.<sup>[11]</sup> According to Ken et al.<sup>[12]</sup> mean hospitalization was 14.6 days in this present study, the mean age of the study population in years was  $44.53 \pm 10.21$ . 23.3% were in 25-35 years age group, 36-45 years age group were 33.3%, 46-55 years were 26.7%, 56-65 years were 16.7% 83.3% were male and 16.7% were female. In the present study, out of 25 male participated in the study 20% were in 25- 35 years, 32% were in 36-45 years, 32% were in 46-55 years age group, 16% were in 56-65 years. Out of 5 female participants, 80% were in 25 – 45 years age group, 20% in 56-65 years age group. In the present study, 90% had fever, 76.7% had pain abdomen, 50% had jaundice, 23.3% had cough, 26.7% had diarrhoea/dysentery and 3.3% had altered sensorium Based on signs, 36.7% had Icterus, 16.7% had pallor, 56.7% had Hepatomegaly, 43.3% had Abdominal tenderness, 23.3% had Cough. Based on duration of symptoms, 6.7% had Acute presentation and 93.3% had chronic presentation. The mean duration of symptoms in days was  $14.66 \pm 8.23$  days. 63.3% had history of Alcohol intake. The mean Hb% was  $10.71 \pm 1.29$ , The mean WBC count was  $12386.67 \pm 1988.672$ , Mean RBS was  $112.8 \pm 47.4454$ , Mean urea was  $34.1 \pm 16.39$ , The mean serum bilirubin levels was  $2.36 \pm 1.52$ , Mean Albumin levels were  $3.90 \pm 1.24$ ., 50% had albumin levels  $<3.5\text{gm/dl}$ . Mean PT was  $14.53 \pm 3.21$  The mean SGOT was  $48.46 \pm 30.04$  and the mean SGPT was  $47.16 \pm 26.37$ . Elevated hemidiaphragm was observed in 46.7%, 20% had Pleural effusion on Chest X ray. On USG findings, 73.3% had Right lobe involvement, 13.3% had left lobe involvement and 13.3% had Both lobe involved. 60% had Solitary abscess on ultrasound and 40% had multiple abscesses. Aspiration was done on 63.3% of the participants, conservative medication alone management in 30% and Surgical drainage in 6.7%. Amongst the complications, peritonitis observed in 6.7% and septicaemia in 3.3%. Pus culture findings show 3.3% with staph aureus. In our study, the mortality is 3.3%.

## CONCLUSION

The liver abscess can be treated conservatively in most of uncomplicated cases & multiple or single, small or medium size abscess, and abscess with complications require intervention in the form of either close or open drainage However, there is no clear cut consensus for the management of uncomplicated symptomatic medium sized liver abscess with treatment modalities ranging from conservative medical management alone to needle aspiration to pigtail Catheterisation. The present study is an effort to establish an objective criterion for management of such abscess. Our study is designed to find out which method is useful and ideal for particular patient with reference to severity of the disease and safety of the patient. Effective and appropriate management of the disease would help in decreasing morbidity and mortality.

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