

## A STUDY ON LIVER ABSCESS IN A TERTIARY HOSPITAL

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### ABSTRACT

**Aims and Objectives:** To study the demographic profile, clinical presentation and the etiological factors of liver abscess in adults

**Materials and Methods:** This was a retrospective study conducted at Mamata General Hospital, Department of General Medicine, Khammam. The duration of the study was two years i.e. 1<sup>st</sup> Jan 2010 to 31<sup>st</sup> Dec 2011. Age group was 20-75 years. Inclusion criteria taken for this study was based on history, socioeconomic status, demographic profile, clinical examination, biochemical culture from abscess drained & ultrasound findings. Patients with less than 20yrs and traumatic abscess, infected tumours are excluded from the study. The diagnosis of liver abscess was made by clinical features, radiological features and aspiration of pus with or without positive culture.

**Results:** Most common age group suffered from liver abscess are 20 – 50 yrs of both sexes with male predominance with male to female ratio 2.2: 1 and most of the patients are from low socioeconomic status of rural population.

Abdominal pain was the most common presenting complaint followed by fever, nausea & vomitings. Right lobe of liver is commonly affected with single as well as multiple abscesses. The common causative pyogenic organisms on culture from the drained liver abscess fluid were klebsiella pneumonia 43%, E.coli 10% and 10% patients positive with serology for amoebic liver abscess. All cases were treated with empirical intravenous as well as oral antibiotics & those with large abscess and not responding to intravenous antibiotics after 72 hrs of therapy were treated with percutaneous pig tail catheter drainage. There was no hospital mortality noticed.

**Conclusions:** Liver abscess is common in low socioeconomic status of rural population & the affected patients were socioeconomically productive age group. Although the incidence of liver abscess is gradually decreasing as compared to previous studies, still there is need to focus on health education in these age groups and a high index of suspicion in these groups who present with abdominal pain and fever.

**KEYWORDS:** Amoebic Abscess, Clinical Features, Pyogenic Abscess

### INTRODUCTION

Liver abscess is a potentially life threatening disease, has undergone specific changes in the epidemiology, aetiology and treatment over the past several decades. Biliary pathology is the most common aetiology for pyogenic liver abscess<sup>(1)</sup>. The most common presenting clinical symptoms are abdominal pain with tenderness, fever, nausea, vomiting, loss of appetite and jaundice. Respiratory symptoms are less frequent. The symptoms are variable depending upon size of abscess, general health of the patient, associated chronic diseases & complications, poor hygiene, contaminated drinking water, malnutrition, hepatic dysfunction, low host resistance, alcohol intake, delayed or inadequate treatment are all

responsible for the disease in the low socio economic group.<sup>(1,3)</sup> Infection with protozoan *Entamoeba histolytica* is common worldwide distribution but it is more common throughout the tropical and subtropical areas and it is a major health problem in Indian population. The aim of the study is to determine the demographic profile, common clinical presentation and to identify the etiological agent.

## MATERIALS AND METHODS

This study was conducted at Mamata general hospital, Department of General Medicine, Khammam. A total of 52 patients case sheets were reviewed and out of 52 cases 43 cases are taken into consideration for this study, remaining 9 case records are excluded because they do not fit into eligibility criteria - like discharged on the same day, no laboratory or ultrasound reports. The duration of study was 2 years i.e., 1<sup>st</sup> Jan 2010 to 31<sup>st</sup> Dec 2012.

The clinical presentation at the time of admission, age of patient, general health of the patient, socio-economic status, geographical status of the patient and radiological characteristics of liver abscess based on ultrasound findings, biochemical parameters, culture and sensitivity reports were taken into consideration.<sup>(1,3)</sup>

### Inclusion Criteria

- To determine the demographic profile of the patients with liver abscess.
- To find out common clinical presentation.
- To identify the etiological factors of the disease

### Exclusion Criteria

Patients less than 20yrs of age, traumatic abscess, and infected tumour were excluded from the study.

## RESULTS

Abdominal pain was the most common presentation found in 33 patients (76%) followed by fever in 31 patients (71%) nausea & vomiting in 26% of patients, shortness of breath in 14% patients and abdominal discomfort in 9% are the common clinical findings in liver abscess patients. Diarrhoea (9.1%), jaundice (5%), weight loss (7%) are the other features.<sup>(1,3,4,7)</sup>

**Table 1**

S.No	Clinical Presentation	Percentage
1	Abdominal pain	76%
2	Fever	71%
3	Nausea & vomiting	26%
4	Shortness of breath	14%
5	Abdominal discomfort	9%
6	Diarrhoea	9%
7	Jaundice	5%
8	Weight loss	7%

In our study 43 patients were fit into the criteria, where 28 patients are males (65.1%) and 15 patients are females (34.8%) with the ratio of nearly 2:1. The age group was ranging from 20-75 years and most common age group suffered from liver abscess is 20-50 years, they are economically productive age group. Mean age group is 35-50 yrs.<sup>(4)</sup>

Table 2

S.No	Age of the Patient	Male	Female
1	20-29	9	2
2	30-39	6	2
3	40-49	7	4
4	50-59	3	1
5	60-69	3	4
6	70-79	---	2
<b>TOTAL</b>		<b>28</b>	<b>15</b>

Most of the abscesses are found in Right lobe of the liver as single lesion as well as multiple abscess lesions.

The age, sex, size, lesions, single & multiple lesions are distributed as in the chart:

Table 3

S.No	Characteristic of the Lesion		20-29		30-39		40-49		50-59		60-69		70-75	
			M	F	M	F	M	F	M	F	M	F	M	F
1	Single lobe liver abscess	Rt. lobe	4	1	3	1	4	0	3	0	1	2	0	3
		Lt. lobe	1	0	2	0	1	2	0	0	1	0	0	0
2	Multiple liver abscess	Rt. lobe	3	1	1	1	2	0	0	1	1	1	0	0
		Lt. lobe	-	-	-	-	-	-	-	-	-	-	-	-
		Both lobes	-	-	-	-	-	-	-	-	-	-	-	-
3	Size of the abscess	<10cm	19	2	3	2	6	4	3	1	2	2	0	2
		>10cm	0	0	2	0	1	0	0	0	1	1	0	0

Out of the 43 patients klebsiella pneumonia culture is positive from drained abscess fluid in 16 patients (38%), E.coli for 4 patients (9.6%), mixed positive (positive for both klebsiella & E. coli) in 2 patients (4.6%) and 6 patients have serological evidence of Entamoebahistolytica (14%), 15 patients were shown culture negative and no serological evidence of Entamoebahistolytica.<sup>(1,3)</sup>

Table 4

S.No	Organism	No. of Cases	Percentage
1	Klebsiella pneumonia	16/43	37%
2	E.coli	4/43	9.5%
3	Mixed (both klebsiella&E.coli)	2/43	4.8%
4	Entamoebahistolytica	6/43	13.8%
5	Culture & serologically negative	15/43	35.1%

Culture negative cases may be due to biliary stone or other biliary diseases, or priorly treated with antibiotics. The non specific biochemical features such as mild anaemia, polymorph nuclear cell predominant were common in 70% of cases, there was also raised serum bilirubin levels with mild elevation of alkaline phosphatase levels.<sup>(3,7)</sup> There is no mortality in our study.

## DISCUSSIONS

As compared to previous studies of liver abscess the incidence and prevalence of liver abscess are reduced gradually, it may be due to effective antibiotics, improvement in imaging qualities to determine the disease in early stages, improving economic properties of the people. Most of the liver abscess were treated and cured effectively with IV antibiotics, percutaneous drainage or aspiration & anti amoebic drugs.

As compared to previous studies<sup>(1,3,4)</sup> most patients improved symptomatically within 48-72 hrs and completely cured in 3 months course of medical therapy. Patients who fails to respond within 48-72 hrs, abscess size >10 cm with thin

rim of liver tissue (<1cm) , left lobe liver abscess were drained with needle aspiration and in 70% of patients those who underwent needle aspiration were sufficient to drain the fluid and remaining 30% patients required repeated drainage (3-5 times).<sup>(4)</sup>

As compared to previous studies this study shows clearly that was curable & preventable disease in 90% of cases by improving hygienic conditions, good nutrition, safe drinking water, avoidance of alcohol consumption, early detection & complete treatment for biliary diseases, health education play a significant role in patients who presents with abdominal pain, fever, nausea, vomiting should screen and evaluate for liver abscess.

## CONCLUSIONS

Liver abscess is common in low socioeconomic status of rural population. Although the incidence and prevalence gradually decreasing as comparative to previous studies, still there is a need to focus on health education for prevention like sanitation and nutritious food in these groups and a high index of suspicion who presents with abdominal pain and fever.

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