



A Study on Role of Alcohol and LFT in Liver Abscess

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Abstract

Liver abscess is a common surgical problem in our country. This study was carried out to determine the clinicopathology, role of alcohol and LFT in liver abscess, including the various modalities of treatment and its efficacy. Fifty patients from Surgery department of Rajah Muthiah Medical College and Hospital during the period of October 2015 to October 2017 were selected. On analysing the risk factors, as expected, chronic alcoholism was the predominant risk factor, seen in 16 patients (32%), with diabetes seen in five patients and systemic hypertension seen in four patients. Both Diabetes Mellitus and systemic hypertension was seen in seven patients (14%). Thirty six percent of the patients had no identifiable risk factor. Thus this study showed Chronic Alcohol intake is a definitive risk factor for development of liver abscess. Though alcoholism is a predisposing, it has no role in the etiology and liver function test didn't show much alteration.

Keywords: Liver Abscess, Pigtail catheter, Laparotomy, Alcoholic.

Introduction

Liver abscess is a common surgical problem in our country. Our study aims to review the literature on the management of liver abscess, focusing on the choice of drainag, role of alcohol and LFT .A case series of our experience with clinical pathological correlation is presented to highlight the indication and outcome of each modality of drainage

Materials and Methods

My study is an observational prospective and retrospective study with approximately 50 patients

of liver abscess. Method of sampling was non-random, purposive. Baseline investigations, LFT as routinely required, were done followed by imaging studies (USG & CT abd).

Results

Age of 50 patients ranged from 18-75 years. The patients were predominantly of the more than 40 age group. Around forty three patients (86%) were males, the high amount of prevalence of liver abscess among males can be explained by increased risk factors like alcohol consumption. On analysing the risk factors, as expected, chronic

alcoholism was the predominant risk factor, seen in 16 patients (32%), with diabetes seen in five patients and systemic hypertension seen in four patients. Both Diabetes Mellitus and systemic hypertension was seen in seven patients (14%). Thirty six percent of the patients had no identifiable risk factor. On evaluation of the presenting symptoms, thirty four patients (68%) had fever usually associated with chills and rigors. Thirty one patients (62%) had right hypochondrial pain and tenderness. Nearly all the patients had either of these symptoms. None of them presented in exclusion of either of these symptoms. Eighteen patients (36%) had complaints of vomiting and anorexia. Six patients complained of jaundice and another five patients complained of breathlessness. An analysis of the pus culture and sensitivity from the discharge, showed the presence of Entamoeba histolytic in twenty two patients (44%). Bacterial infection was seen in the remaining twenty eight patients with common organisms being E.Coli, Klebsiella, Staphylococcus aureus, with thirteen patients (26%) having polymicrobial infection. Regarding the procedures performed, nineteen patients (38%) underwent

laparotomy and drainage, while the majority of the patients, around twenty nine (58%) underwent ultra sonogram guided pig tail drainage. Conservative management was tried in two patients (4%). On comparing the procedure underwent with the size of abscess the patient had it was found that, fifteen of twenty three patients with abscess size greater than 5cm underwent laparotomy and drainage with pig tail drainage done for eight patients and conservative management attempted in none of these patients. A vast majority of patients, more than eighty percent with size less than five cm, were managed with pig tail drainage, while open drainage was done in eight patients and two patients were attempted conservative management. Six patients had ruptured liver abscess with laparotomy and peritoneal lavage being done for all these six patients. All six of these patients developing complications, with three patients going into sepsis while three patients expired due to multi organ dysfunction syndrome. Residual abscess was seen in three patients who had underwent pigtail drainage. Both the conservatively managed patients recovered uneventfully.

Table 1: Age and Sex distribution of patients

AGE/SEX	MALE	FEMALE	TOTAL
18-29	0	2	2 (4)
30-39	9	1	10 (20)
40-49	13	0	13 (26)
50-59	12	2	14 (28)
>60	9	2	11 (22)
Total	43 (86)	7 (14)	50 (100)

Table 2: Prevalence of Risk Factors in patient group

Risk factor	Number	Percentage
Diabetes mellitus	5	10
Hypertension	4	8
DM & HTN	7	14
Alcoholic	16	36
No Comorbidity	18	36
Total	50	100

Table 3: Distribution of Symptoms among the patient group

	Numbers	Percentage
Fever	34	68
Rt. Hypochondrial pain	31	62
Jaundice	6	12
Vomiting	18	36
Dyspnea	5	10

Table 4: Analysis of Vital Parameters in patients with liver abscess

Parameters	Within range		Outside range	
	Number	Percentage	Number	Percentage
SBP	42	84	8	16
PR	28	56	22	44
Hb	42	84	8	16
TC	33	66	17	34
Urea/ Creatinine	39	78	11	22
LFT	39	78	11	22
Albumin	44	88	6	12

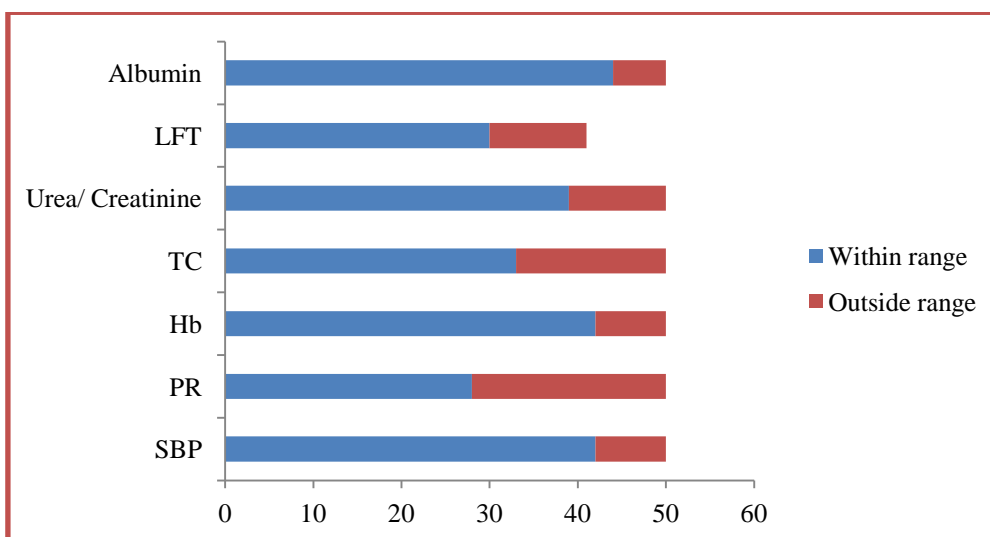


Table 5: Analysis of Pus C/S among the patients group

Organism	numbers	Percentage
Entamoeba histolytica	22	44
E. coli	4	8
Klebsiella	3	6
Staph. aureus	5	10
Polymicrobial	13	26
No growth	3	6
Total	50	100

Table 6: Analysis of various investigations underwent by patients in the study

Investigation		Numbers	Percentage
Size	<5cm	27	54
	>5cm	23	46
Number	Single	44	88
	multiple	6	12
Location	Right	37	74
	Left	7	14
	Caudate/ Quadrate	6	12

Table 7: Distribution of procedure underwent among patient groups

Operative procedures	Numbers	Percentage
Laparotomy and drainage	19	38
Pigtail Drainage	29	58
Conservative management	2	4
Total	50	100

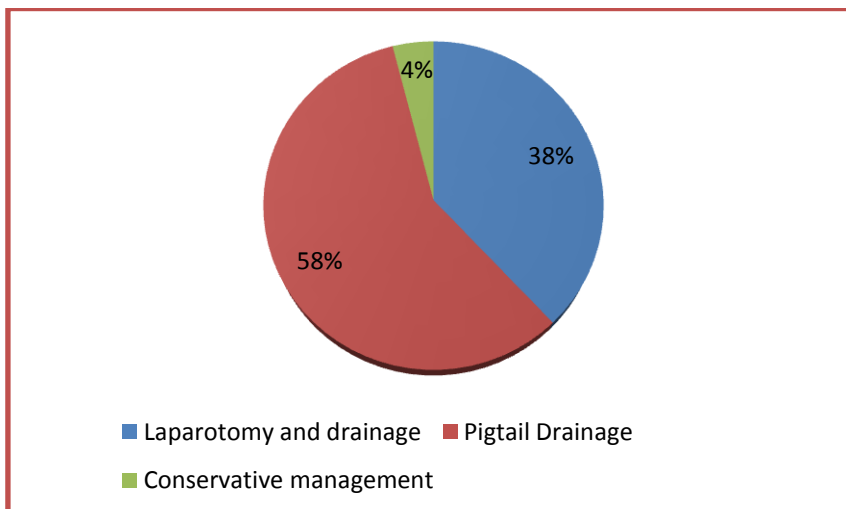


Table 8 : Distribution of procedure underwent with respect to size of abscess

Procedure		Numbers	Percentage
Laparotomy	>5cm	15	30
	<5cm	8	16
Pigtail	>5cm	8	16
	<5cm	21	42
Conservative	>5cm	0	0
	<5cm	2	4
Total		50	100

Table 9 : Prevalence of Complications Among Patient Group

Complications	Numbers	Percentage
Ruptured Abscess	6	12
Residual Abscess	3	6
ARDS/ Sepsis	3	6
Death	3	6

Table 10 : Analysis of complications with respect to procedure

Complications	Laparotomy	Pigtail	Conservative
Ruptured Abscess	6	0	0
Residual Abscess	0	3	0
ARDS/ Sepsis	3	0	0
Death	3	0	0

Discussion

Liver abscess is common surgical problem encountered in our clinical practice. It is a source of great discomfort patient and causes prolonged morbidity in those patients who are not properly managed or who developed complications. It

poses a great dilemma as the management protocols are not very well defined. There is an increasing number if newer treatment modalities available. But their efficacy and clinical indications are not very well established. Moreover there is no clear cut data on the

prognostic factors and the clinicoepidemiology of the disease. This study tries to throw a light on few of those factors

Age and Sex Distribution

Male more than forty age group was the most affected population. The prevalence of alcoholism among males can be mainly attributed to the predominant involvement of them among liver abscess patients. Since they constitute the primary work force in any society, any morbidity of the disease constitutes a great strain on the economy of that family.

Risk Factors

Chronic Alcohol intake is a definitive risk factor for development of liver abscess. Diabetes Mellitus is the prevalent comorbid factor, seen especially in the elderly. Other comorbid factors include hypertension, bronchial asthma etc. None of these seemed to have a significant correlation with the disease process.

Diagnostic Studies

All patients underwent routine blood investigations, LFT. Ultra sonogram of the abdomen is sufficient in patients with small, single abscess lying in the superficial segments. CECT abdomen has better sensitivity and specificity in identifying multiple abscesses or deep lying abscess and also for making out any complications like rupture or biliary tree obstruction

Causative Organism

In this study there was near equal prevalence of amoebic and bacterial liver abscess with not much difference in the prognosis, line of management or the incidence of complications.

Management

Pig tail drainage is preferred in patients with single abscess of size less than 5 cm situated in superficial segments. Laparotomy and drainage was done in patients with ruptured or impeding rupture abscess. Conservative management with antibiotics was also useful in very small single cavity abscess

Morbidity & Mortality

The incidence of complications was predominantly seen in patients with ruptured liver abscess who underwent laparotomy, in form of sepsis followed by MODS and death. Residual abscess cavity was seen in small number of patients following pig tail drainage but it was not significant.

In a study conducted by kini and mammi on the patients with liver abscess, history of alcoholism was found in 20%-30% cases.⁷

In a study conducted by Ravinder PS. Makkar et al. it found that higher incidences of ALA in alcoholic liver possibly due to their higher iron content.⁹

Conclusion

Chronic Alcohol intake is a definitive risk factor for development of liver abscess. Though alcoholism is a predisposing, it has no role in the etiology and liver function test didn't show much alteration. Diabetes Mellitus is the prevalent comorbid factor, seen especially in the elderly. Other comorbid factors include hypertension, bronchial asthma etc. None of these seemed to have a significant correlation with the disease process. Pig tail drainage is preferred in patients with single abscess of size less than 5 cm situated in superficial segments. Laparotomy and drainage was done in patients with ruptured or impeding rupture abscess. Conservative management with antibiotics was also useful in very small single cavity abscess. The incidence of complications was predominantly seen in patients with ruptured liver abscess who underwent laparotomy, in form of sepsis followed by MODS and death. Residual abscess cavity was seen in small number of patients following pig tail drainage but it was not Significant.

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