

Original article**COMPARATIVE STUDY OF MEDICAL THERAPY VERSUS MEDICAL THERAPY WITH ASPIRATION OF PUS IN TREATMENT OF LIVER ABSCESS****Department: General Surgery****Authors:****Principle Author:**

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Introduction

Liver abscesses, both amoebic and pyogenic, continue to be an important cause of morbidity and mortality in tropical countries. The advances in radiology like ultrasonography and CT scan since last 30 years including imaging and interventional techniques resulted in introduction of radiological guided aspiration and drainage of intra-abdominal abscesses^[1]. The most common mode of treatment of liver abscess is Medication. Many cases are refractory to medical therapy and secondary bacterial infection may complicate 20% of amoebic liver abscess. In such patients, aspiration and/or drainage have been the traditional mode of treatment. Operative drainage is associated with significant (10 to 47%) mortality and morbidity.

In general, surgical drainage has been reserved for patients who fail to respond to treatment with percutaneous drainage and antibiotics; and are complicated with rupture of abscess cavity into body cavity, either abdomen or thorax. Before the easy availability of percutaneous drainage, pyogenic liver abscesses used to carry a high mortality, despite medical treatment and/or surgical drainage. Since the first description of closed aspiration as a form of treatment for pyogenic liver abscesses, half a century ago, imaging-guided percutaneous drainage has gained increasing acceptance as an integral part of treatment. (8-9)

Aims & Objectives:

- The aim of our study is to evaluate the management of liver abscess in form of medical therapy with / without aspiration in our surgical department AMC MET medical college and LG hospital, Ahmedabad with specific objectives mentioned below.
 - Demographic profile (Age, Sex).

- Chief presenting complaint.
- Evaluate laboratory investigations and its correlation with presentation of patient.
- To evaluate effectiveness of treatment

Methodology

STUDY DESIGN:

In the present prospective comparative study, 100 patients were selected from L.G General Hospital, Ahmedabad. A total of 100 patients with newly diagnosed liver abscess were enrolled and randomized into two groups (on odd and even basis).

- All patients underwent USG at the time of admission and as per the study design shown below for the follow up.
- Patients of both the groups were given
 - Inj. Ceftriaxone 1gm IV 12 hrly
 - Inj. amikacin 500mg i.v. 12 hrly
 - Inj. Metronidazole 800mg IV 8 hrly
 - Tab diloxamide furate 500mg p.o. b.i.d.
- Patients were being randomized (based on odd and even) into two groups: Group A (total patients 50) treated with medical therapy only & Group B (total patients 50) treated with medical therapy with USG guided needle aspiration on the 5th day of admission.
- Patients were examined daily for body temperature, pain and tenderness, laboratory and radiological workup will be done as and when required.
- Cure was defined as improvement clinically with subsidence of fever, local signs and symptoms; decrease in WBC count and follow-up ultrasonography showing reduction.
- Patients were followed upto six months, with clinical and laboratory parameters. Patients were made to undergo Ultrasonography as shown in the below flow-chart and also as and when required.



INCLUSION CRITERIA:

- Newly diagnosed patients of liver abscess admitted in surgical department.
- Patients who were willing to give informed and written consent for percutaneous aspiration if required

EXCLUSION CRITERIA:

- Abscess size > 10 cm and <5cm on USG.
- Patient's age <18 years.
- Multiple Liver abscesses
- Ruptured liver abscess.
- Uncorrected coagulopathy.
- Liver abscess in left lobe of liver.
- abscess located at percutaneously inapproachable liver segments and or abutting vital structures (major biliary tree or portal vessels)

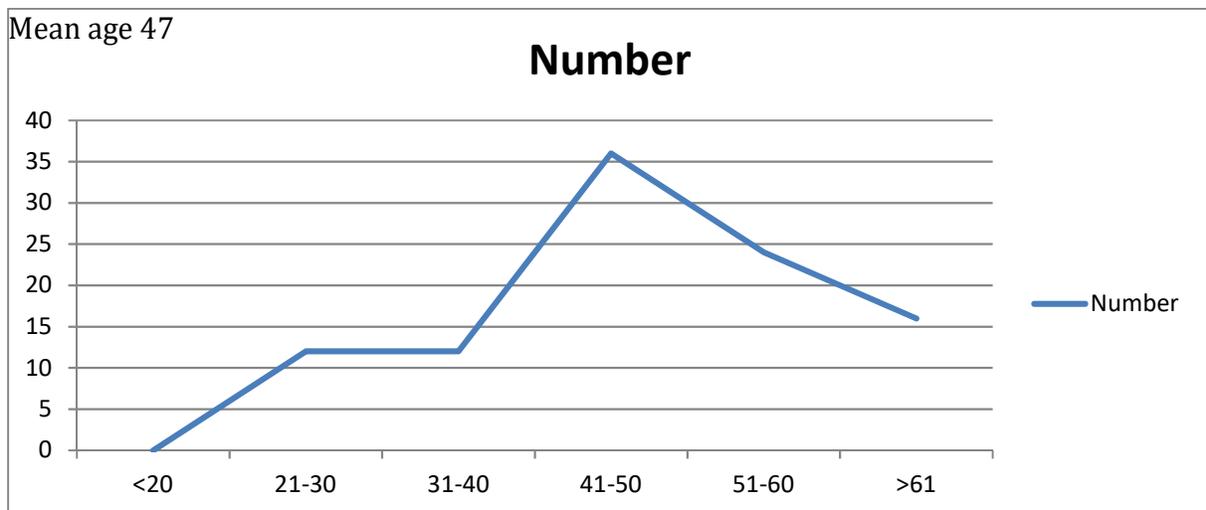
RESULTS

- Total 100 patients of liver abscess were included in the study.

Table 1: Age wise distribution of Liver Abscess Patients.

Age	<20	21-30	31-40	41-50	51-60	>60	Total
Number	0	12	12	36	24	16	100

Figure 1: Age wise distribution of Liver Abscess Patients.



- Follow up after initiation of therapy revealed normalization of body temperature in all patients within 7 days in both groups.
- Likewise, abdominal pain disappeared in 95% of patients within 5 days.
- In contrast, follow up of liver tenderness revealed a significant difference between the two groups after 3 days. Only 10 patients from group A while 30 patients from group B reported disappearance of tenderness after 8th day.

Table 2: Correlation of symptoms in two groups

Reduction in symptoms	On day 7	Day 14	Day 21	Day 180

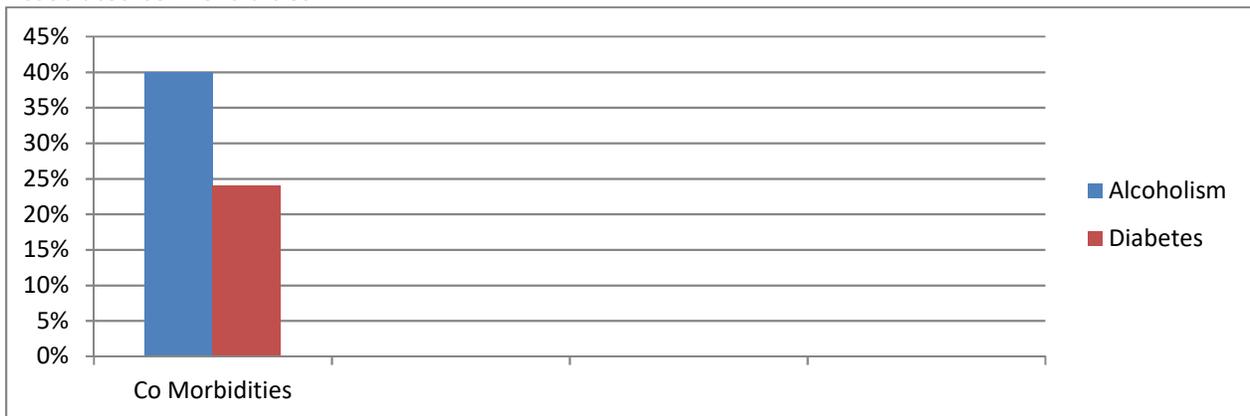
Group B	80%	85%	90%	96%
Group A	70%	75%	80%	84%

- 5 patients from group A required aspiration as fever, pain and tenderness persisted even after 8th day of conservative management & patient had persistent leucocytosis.
- Almost all patients were free of fever, pain and tenderness on day 10th.
- The laboratory parameters improved in all patients by 10th day.
- By day 21, USG showed decreased size of abscess cavity in all patients. But, residual cavity size was reduced more in group B.

Reduction in size	On day 7	On day 14	On day 21	On day 180
Group B	50%	70%	85%	90%
Group A	20%	40%	70%	75%

- The reduction in symptoms was almost equivalent in both the groups and did not have any major difference on the basis of therapy given.
- Below shown chart shows the associated co-morbidities in the patients involved in the study.
- The Mean reduction in size of liver abscess in group B is significantly high from the mean reduction in size of liver abscess in patients of group A, which is statistically significant at p=0.05 (t-value=17.26246; p-value< 0.01)

Associated co-morbidities



SYMPTOMS	J Ayubcoll	Yoo et al	Mangukiya et al	Group A	Group B
Pain	100%	85%	97%	80%	98%
Fever	96%	71%	74%	84%	94%
Weight loss	-	24%	-		
Diarrhea	-	23%	6%		
CLINICAL SIGNS					
Tenderness	100%	88%	95%	88%	96%
Pallor		-	14.5%		

Fever		93%	74%	84%	94%
Hepatomegaly		41%	26%		
Icterus	12%	7%	11%		

Discussion

Though there was a difference in reduction of size in both the groups but the symptoms had almost equivalent reduction with the ongoing treatment. Liver abscess shares the clinical characteristics of a space occupying cavitary hepatic lesion of infectious origin. Fever with abdominal pain is the most common presenting symptom. The size of the abscess is associated with the severity of the symptoms. Abscesses are usually located peripherally in contact with the liver capsule and the outline is round, oval or lobulated. The mean resolution time is 4 months, and in majority of patients the ultra-sonographic residual findings persist for more than 6 months. Serial scanning is unwarranted in patients because the treatment response is graded based only on clinical improvement. Most of these patients respond to antibiotics and supportive care, a significant number eventually require needle aspiration which is generally done at a later stage, while medical therapy alone is considered as inadequate, resulting in an extended hospital stay (10). An early decision regarding aspiration of liver abscess is therefore important as it is likely to reduce the length of hospital stay and hence the cost of treatment.

CONCLUSION

Drug treatment is the mainstay of liver abscess management. Though monotherapy with drug is as effective as combination therapy (drug + aspiration); combination therapy definitely reduces convalescence period by decreasing abscess cavity size faster than the monotherapy

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