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A Comparative Study on the Modalities of Treatment in Liver Abscess and Their Outcome

Dr.V.Lekshmi Narayani[1], Dr.P.Kannan[2]
[1](Associate Professor Of Surgery/ Government Medical College & ESI Hospital,Coimbatore, India.)
[2](Assistant Professor Of Surgery/ Government GMKM Medical College Hospital, Salem, India)

Abstract
Objectives: *To compare the outcome of medical treatment and surgical treatment in liver abscess.*
Keywords: *Liver Abscess, Chemotherapy-Percutaneous, Aspiration, Laparatomy And Drainage*
Methods: *This was a hospital based prospective study over a period of 18months in cmch Coimbatore.*
Results: *Out of 50 patients 17 patients were subjected to medical treatment alone and 6 of them needed aspiration because of poor response to antibiotic alone(failure rate of 36%) 26 patients were treated with aspiration and antibiotics showing 55%sucess rate after single aspiration,79%after two aspiration And 97%sucess rate after3 aspiration tube drainage**T**ubedrainage with antibiotics was tried in failure of Percutaneous aspiration with antibiotics in one case with Success rate of 100%.Laparotomy and drainage with antibiotics in cases with ruptured liver abscess with 33% of success rate.*
Conclusion: *Liver abscess without complication may be treated with percutaneous aspiration and chemotherapy.Only complicated cases need laparotomy and drainage.*

I. Introduction

Liver abscess was being considered as a major illness since ancient days i.e from the era of HIPPOCRATES(1)The early diagnosis is required for earlier and effective treatment.The treatment of liver abscess has evolved greatly since1938When Ochsneret al(2) demonstrated the reduction in mortality Associated with operative drainage for all liver abscesses.Since mcfadzean et al(3) first published a series on treatment of d1953 a shift toward non-operative management occurred. A series by Berger Osborne in 1982 (4) demonstrated the treatment of 62 patients with hepatic abscess with antibiotic therapy and needle aspiration. The mortality rate was 4%. Jerzof et al (4) have pointed out the percutaneous drainage is similar to minimally invasive surgical means drainage. Treatment of liver abscess differ depending upon the size of abscess,size of abscess, with or without complication at presentation. Early diagnosis is required to prevent rupture of abscess as well as for treatment.The invent of ULTRASONOGRAM and CT SCAN help for early diagnosis.

II. Objectives

1.To determine the outcome of medical management in liver abscess.
2.To determine the outcome of surgical drainage in liver abscess
3.To compare the outcome of both modes of treatment.

III. Materials And Methods:

A prospective study over a period of 18 months done in CMCH Coimbatore.
In this study 50 patients were subjected to detailed History clinical examination routine investications ,radiological investigation like USG ABDOMEN AND PELVIS,computerised tomographic scan .USG-Abdomen was done in all patients.CT SCAN was done in patients with multiple liver abscesses, caudate lobe abscess, left lobe abscess and ruptured liver abscesses with presenting as peritonitis and sepsis(8,9). After investigations depending upon the number and size of the cavity, nature of illness, location of abscess cavity patients were categorized as follows;

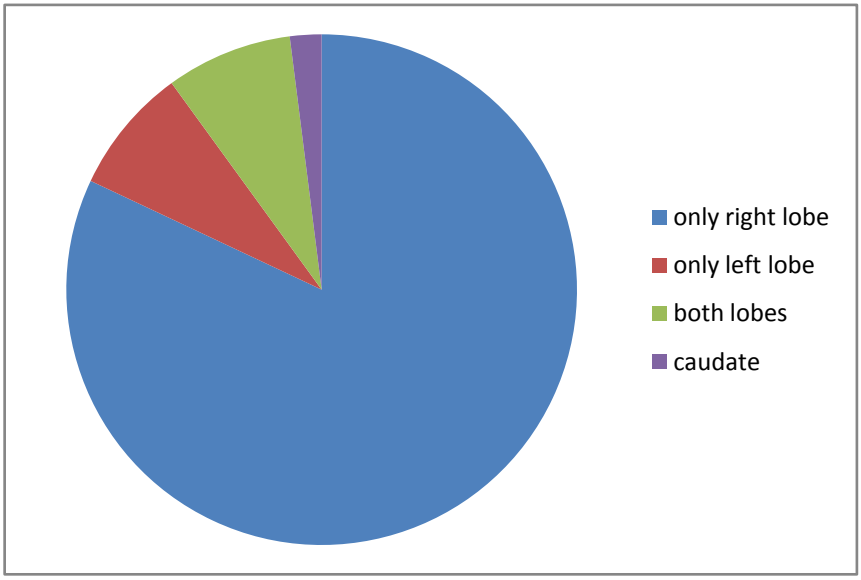
1.Antibioticsalone; less than 200ml The drugs used were ampicillin+aminoglicosides+metronidazole Third generationcephalosporins and metronidazole
2.Patients with following criteria were taken for percutaneous aspiration.
1Patients who continued/ worsened to treatment with antibiotics alone.
2.Liver abscess with more than 5cm in size.
3.Clinical or ultrasonogram features suggest impending rupture.
3.Open drainage was done in patients falling in Kapoor's criteria.
Thick pus which could not be aspirated

Patients with ongoing sepsis even after antibiotics and percutaneous aspiration. Multilobular abscess Abscess in the left lobe. Ruptured abscess. After aspiration according to culture and sensitivitythe antibiotics were changed. Before aspiration inj.vitaminekprophylaxis for 3 days given. Inclusion criteria. Patients more than 18 years Patients presenting with liver abscess. Exclusion criteria Patients less than 18 years Pregnancy

IV. Results

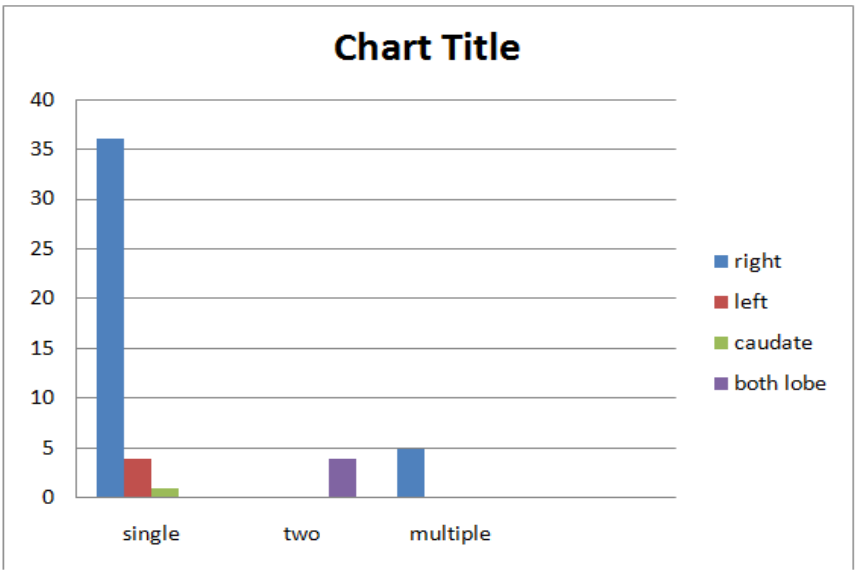
Mode of presentation.

Sl.no	Involved part	No.of patient	%
1	Only right lobe	41	82
2	Only left lobe	4	8
3	Both lobes	4	8
4	Caudate lobe	1	2



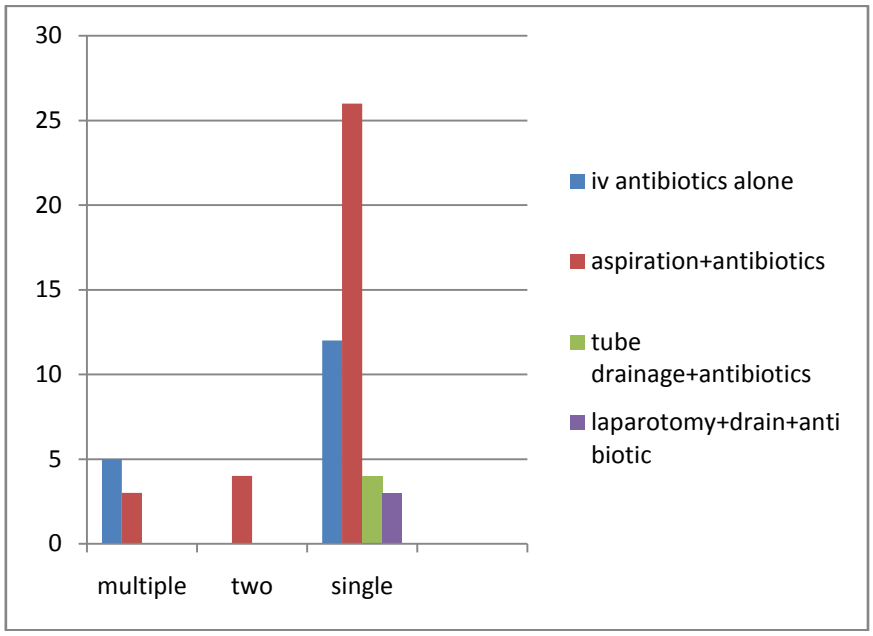
2.Number of abscess cavity

Si.no	No of cavity	Right	Left	Caudate	Both lobe
1	Single	36	4	1	0
2	Two	0	0	0	4
3	Multiple	5	0	0	0



3.Number of cavity and its mode of treatment

Sl.no	No of cavity	IVantibitics alone	Aspiration+ antibiotics	Tube Drainage+ antibiotics	Laparatomy+ Drain+Antibiotics
1	Multiple	5	3	0	0
2	Two	0	4	0	0
3	Single	12	26	4	3



V. Results

The data was tabulated and analysed as follows:

Table 1: Mode Of Presentations

Sl.No	Involved Part	N.ofPts	%
1	Only right lobe	41	82
2	Only left lobe	4	8
3	Both lobes	4	8
4	Caudate	1	2

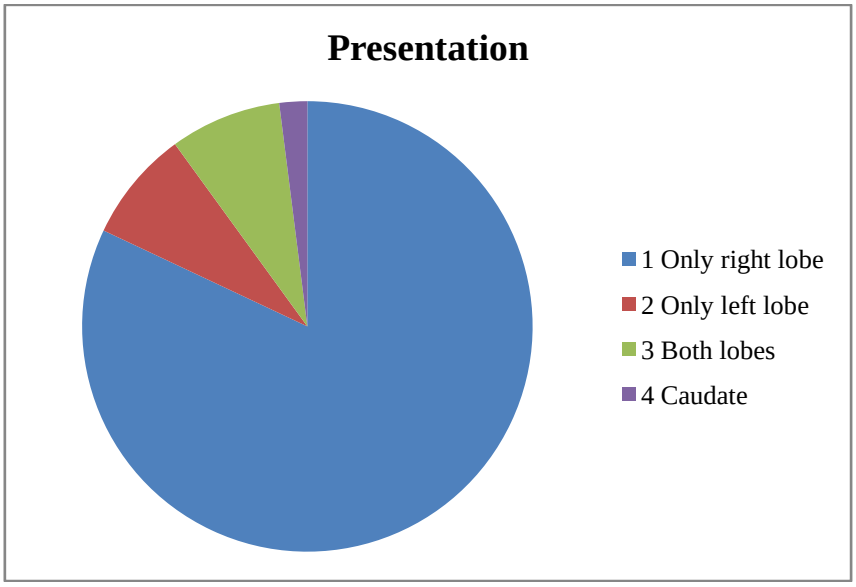


Table 2: Number Of Abscess Cavity

Sl.No	No of cavity	Right	Left	Caudate	Both Lobe
1	Single	36	4	1	1
2	Two	0	0	0	4
3	Multiple	5	0	0	0

Table 3: Number Of Cavity And Its Mode Of Treatement

Sl.No	No of cavity	I.V.Antibiotics Alone	Aspiration + Antibiotics	Tube drainage + Antibiotic	Laparotomy + Drain + Antibiotics
1	Multiple	5	3	0	0
2	Two	0	4	0	0
3	Single	12	26	4	3

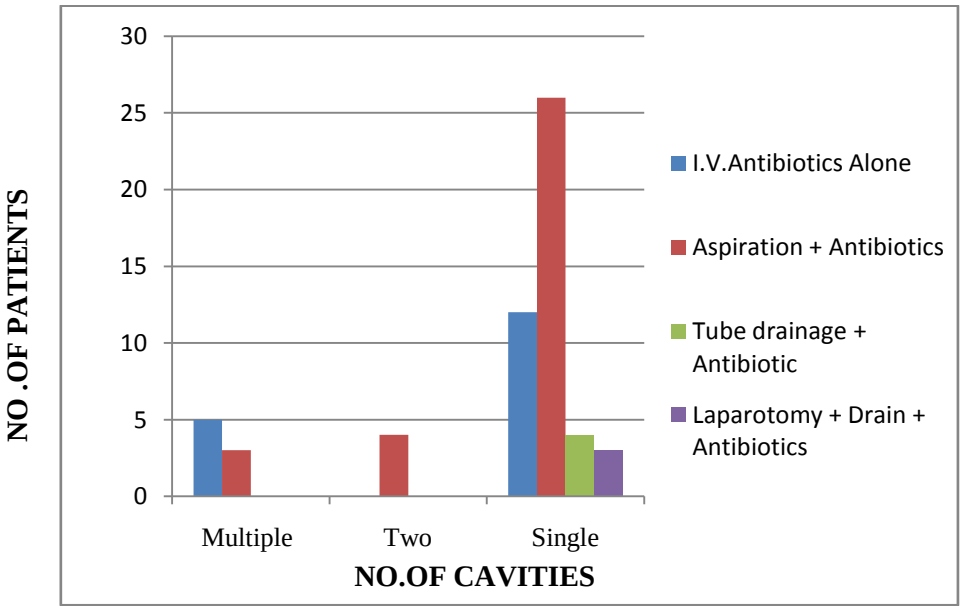


Table 4: Mode Of Outcome With Parenteral Antibiotics Alone

Sl.No	Lobe	No.of Patients	Cured	Failure
1	Right	15	10(66.6%)	5(33%)
2	Left	1	0	0(100%)
3	Both	0	0	0
4	Caudate (small abscess)	1	1(100%)	0

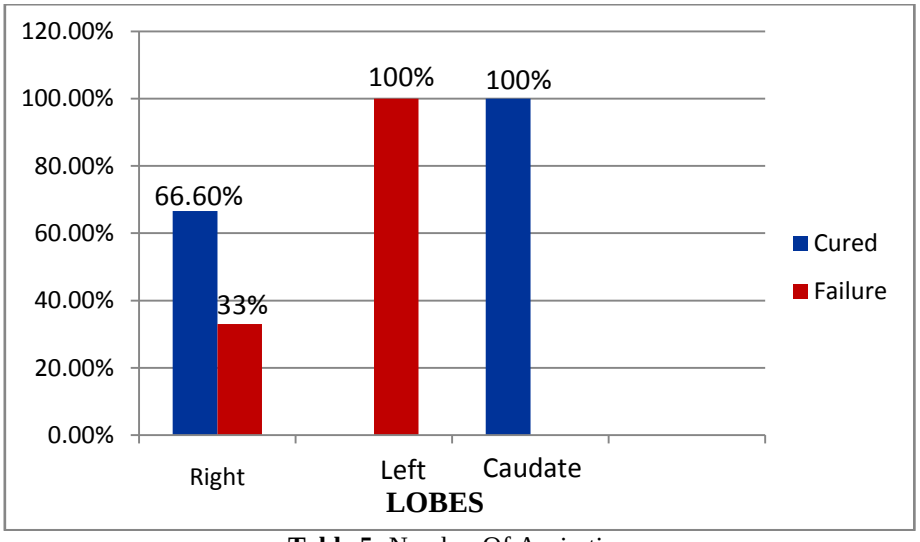


Table 5: Number Of Aspiration

Sl.No	Lobe	No.of Patients	1st Aspiration	2nd Aspiration	3rd Aspiration
1	Right	27	27	9	4
2	Left	2	2	1	1
3	Both	4	4	4	2

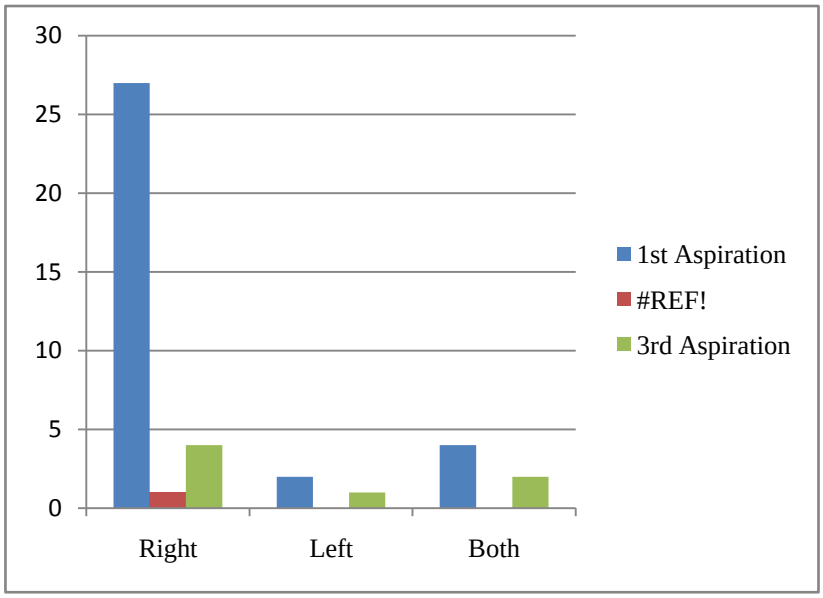


Table 6: Outcome After Each Aspiration

Sl.No	Lobe	After 1st (Cure rate)	After 2nd (Cure rate)	After3rd (Cure rate)
1	Right(27)	17(63.6%)	22(81%)	26(96%)
2	Left (2)	1 (50%)	1 (50%)	2 (100%)
3	Both(4)	0	2 (50%)	4(100%)

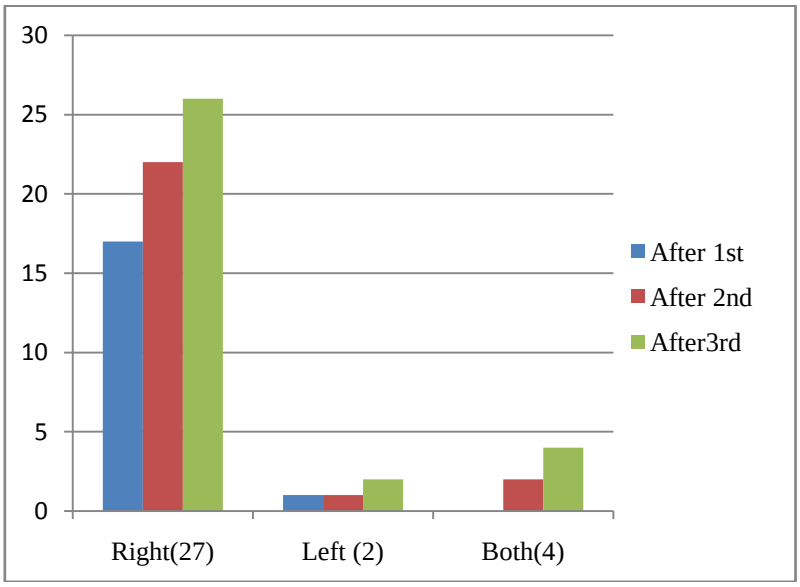


Table 7: Tube Drainage With Antibiotics And Its Outcome

Sl.No	Lobe	Outcome
1	Right (2)	2 (cured)
2	Left (2)	2 (cured)

Table 8: Laparotomy And Drainage With Antibiotics

Sl.No	No.of Patients	Cured	Failure
1	3	1 (33.)	2 (66.6%)

Table 9: Location Of Abscess Cavity And Its Management

S.No	Lobe	No Of Patients	Parenteral Antibiotics Alone	Aspiration + Antibiotics	Tube Drainage + Antibiotics	Laparotomy + Drainage + Antibiotics
1	**Right** Single Multiple	36 05	10 05	24 03	02 00	03 00
2	**Left** Single	04	01	02	02	00
3	**Both**	04	00	04	00	00
4	**Caudate**	01	01	00	00	00

Table 10: Lobar Involvement, Treatment And Its Outcome

Lobe Involved	Mode of treatment (no)	Outcome			
		Cured		Failure	
Right lobe	Parenteral antibiotics alone- single (10) - multiple	8 2	80% 40%	2 3	20% 60%
	After 1 Aspiration 2 Aspiration 3 Aspiration	17 23 26	63% 85% 96%	10 4 1	37% 15% 4%
	Tube (2)	2	100%	0	0%
Left lobe	Antibiotics alone (1)	0	0%	1	100%
	After 1. Aspiration 2. Aspiration 3. Aspiration	1 1 2	50% 50% 100%	1 1 0	50% 50% 0%
	Tube (2)	2	100%	0	0%
Both lobes	Antibiotics-alone	-	-	-	-
	After 1Aspiration 2Aspiration 3Aspiration	0 2 4	0% 50% 100%	4 2 0	100% 50% 0%
Caudate (small abscess)	Antibiotics alone	1	100%	0	0%

VI. Discussion

Hepatic abscess was first described by HIPPOCRATES around4000BC.(1) OCHSNER's review of 47 cases of pyogenic abscess were treated by open surgical drainage. Advances in diagnostic and therapeutic radiology with improvement in microbiological identification and therapy decreased the mortality rates to<5-30%(2). In this series50 patients were studied and 2 died.USG ANDCTscan of abdomanwere the gold standard diagnostic modalities. The antibiotics Ampicillin+Aminoglycosides+Metronidazoleor third generation Cephelosporins+Metronidazolewere given. Antibiotics were changed after aspiration according to culture and sensitivity. MALIK et al(5)reported their experience of managing 169 pyogenic liver abscesses .16 of which were treated with IV antibiotics alone for 2 weeks. This report was successful in only 6 of them the remaining10 required open surgical drainage for control of sepsis.

BLESRMAN and Collegues reported a prospective randomized trial of patients with amoebic abscess treated with Metronidazole alone or withUSG guided aspiration plus medication. They advocated drug treatment alone for uncomplicated abscess with a diameter upto10 cm and located in right lobe of liver.(6).

In our series17 patients were treated with antibiotics alone. Among this 11pts were cured . 6pts were converted into surgical methods of treatment. In this 11pts 8pts had right lobe abscesswith single cavity .2pts with multiple cavity and one with small caudate lobe abscess.
33pts were treated with aspiration and antibiotics. After single aspiration with antibiotics18 pts got cured.At the end of 2 aspiration with antibiotics 26 pts were cured.After 3 aspiration with antibiotics32 pts got cured.Onept was changed to closed tube drainage as the size of abscess increases.
4pts were treated with closed tube drainage with success rate of100%. 3pts were treated with laparotomy and drainage as the abscess was ruptured at presentation.2pts died 1pt got cured.

VII. Conclusion

Parenteral antibiotics alone without any drainage procedure has shownpoorresults.Only 17 pts were subjected to this and 6pts neededaspiration.Failure rate 36%/ Percutaneous aspiration has better results with success rate of 55% with single aspirationwithantibiotisc,with success rate of 79% after 2 aspirations with antibiotics and successrate of 97% after 3 aspirations with antibiotics. Tube drainage with antibiotics showed100%/success rate .Laparotomy with drainage done in ruptured abscess the success rate was 33%.

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