

ORIGINAL RESEARCH

Study Of Cases Of Plament Of Percutaneous Liver Aspiration Drain For Pyogenic Liver Abscess”

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INTRODUCTION

Pyogenic liver abscess is a life threatening disease. Management of pyogenic liver abscess has improved significantly with the advent of potent antimicrobial agents and advances in diagnostic imaging and imaging guided percutaneous procedures. Because of this progress, the classic triad of fever, upper right quadrant pain or fullness, and jaundice is rarely seen nowadays. Over the past three decades, percutaneous needle aspiration or catheter drainage guided by sonography or CT has become the therapy of choice for pyogenic liver abscess. Percutaneous pigtail catheterization reduces chances of exploration by surgery for liver abscess. Exploratory laparotomy is now indicated in cases of ruptured liver abscesses only. The advantage of sonographic over CT guidance is that sonography is a real-time imaging technique that allows monitoring of the course of the needles and catheters as they traverse tissues. CT usually is associated with longer procedure times because it is necessary to scan the region of interest every time confirmation of catheter is required.

A review of 30 patients with pyogenic liver abscess treated at general hospital of Ahmedabad over a 3 year period was undertaken who were managed by percutaneous pigtail catheterisation along with other supportive procedures.

AIMS OF STUDY

- i) To evaluate predisposing factors & incidence of pyogenic liver abscess in various age group, sex, socio-economic study, various medical diseases & its comparison with international studies.
- ii) To study patient, presentation and manifestations of pyogenic liver abscess and its complications.
- iii) To evaluate response of various diagnostic techniques and available resources.
- iv) To evaluate role of percutaneous pigtail catheter drain for management of liver abscess.

MATERIALS AND METHODS

The patients of diagnosed pyogenic liver abscess and treated at our institute were reviewed and studied for the following datas.

The cure was considered with the absence of symptoms and clinical signs. Though the cavity persisted in follow up ultrasound for much longer time.

A study of treatment of pyogenic liver abscess by placement of percutaneous liver aspiration drain.

OBSERVATION AND DISCUSSION

My study deals with 30 patients of pyogenic liver abscess admitted and treated in our institute.

The observations of patients are discussed and compared with standard series below.

(1) AGE INCIDENCE

Age Group in years	No. of patients in this series	% of patients in this series	A.H. Mohsen et al, 2002
0-10	0	0	-
11-20	1	3.3%	-
21-30	3	10%	15%
31-40	10	33.3%	6%
41-50	6	20%	10%
51-60	6	20%	20%
61-70	4	13.3%	46%
71-80	0	0	3%
81-90	0	0	-
91-100	0	0	-
Total	30	100%	

Although liver abscess is a disease of any age group. It can develop at any age, it is more commonly seen in adult life with highest incidence in 3rd to 5th decade and rarely seen at two extremes of life.

(2) SEX INCIDENCE

My Series	Male: 27 Female: 03
	9:1
Antonio Giorgio et al, 2005	2.9:1
Zibari GB et al, 1996	1.86:1
Ogawa T et al, 1999	4.6:1
Ch Yu S et al, 1997	2.5:1

It is proved that pyogenic liver abscess is far more common on male patient than female. But reason still unknown. It may be due to higher addiction of alcoholic and tobacco smoking and chewing in male gender.

(3) SOCIO-ECONOMIC STATUS

Socio-Economic status	Number	Percentage
Low	19	63.3
Middle	11	37.7
High	0	0

From above data it is clear that in our state liver abscess is most common in low S.E. status group of patients.

(4) TYPES OF ONSET

Type of onset	No. of Patients present	Percentage
Acute (< 7 days)	22	73.3
Sub acute (few weeks)	6	20
Chronic (few months)	2	0.7

22 patients presented with acute onset of disease.

(5) SYMPTOMS AND SIGNS

Symptoms	No. of patients in present series	% of patients in present series	A.H. Mohsen et al, 2002	Ogawa T et al, 1999	Fong-Fu Chou et al, 1997	Sumit Kapadia et al, 2002
Fever	22	73.3%	70%	86%	70%	88%
Pain	22	73.3%	67%	32%	53.4%	96%
Malaise	21	70%	-	-	-	-
Nausea / Vomiting	13	43.3%	41%	-	-	-
Anorexia / weight loss	12	40%	35%	-	-	-
Diarrhea	7	23.3%	23%	-	-	-
Cough	7	23.3%	38%	-	-	-
Jaundice	5	16.7%	14%	11%	23.8%	-
Tenderness / Guarding	25	83.3%	54%	-	50.5%	-
Hepatomegaly	22	73.3%	30%	-	-	-
Ascites	3	10%	-	-	-	-
Shock	2	6.7%	-	-	17.5%	-

The commonest symptoms are pain and fever seen in 73.3% each.

Tenderness is present in most of patients. Whereas, signs of jaundice ascites and shock are rare.

(6) SOURCE OF WATER based on area of residence which was asked during taking history of patient

Source	Number	Percentage
Hygienic	7	23.3%
Non Hygienic	23	76.7%

More than 75% patients have non hygienic drinking source.

(7) ADDICTIONS

	No. of Patients	Percentage of Patients
Alcohol	24	80%
Smoking	6	20%

Liver abscess is seen frequently in alcoholic patients.

(8) LABORATORY FINDINGS

Laboratory	No. of patients	% of patients	A.H. Mohsen et al, 2002	Mohammad Akoad et al, 2006	Sumit Kapadia et al, 2002
Hb (gm/L) Men < or = 9 Female < or = 8	20	66.7%	74%	50-80%	-
WBC (<3500, >9500/m ³)	25	83.3%	88%	75-96%	12%
Bil (>1.2 mg/dl)	9	30%	36%	28-73%	-
S. Alk. Phos. (>120 IU)	24	80%	64%	95-100%	-

Alb (< 2.8 gm/dl)	4	13.3%	-	-	-
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Most of the patients with pyogenic liver abscess are anemic and with elevated Total WBC Count & increased Serum Alkaline Phosphatase.

(9) CHEST X-RAY

X-ray findings	No. of patients	%	A.H. Mohsen et al, 2002
Pleural effusion (PE)	4	13.3%	6%
Blunting of CP angle (CPB)	2	6.7%	6%
Elevated diaphragm (ED)	2	6.7%	3%
Total	8	26.7%	15%

Less than 27% of them have abnormal chest x-ray with pleural effusion being the most common.

(10) ULTRASONOGRAPHY OF ABDOMEN

Lobe	No. of patients	%	A.H. Mohsen et al, 2002	Zibari GB et al, 1996	Sumit Kapadia et al, 2002
Right	24	80%	66%	95%	84%
Left	4	13.3%	8%	-	4%
Both	2	6.7%	26%	-	12%

Most often Right lobe is involved in pyogenic liver abscess.

(11) COMPLICATIONS OF LIVER ABSCESS

Type of complications	Present series		Mohammad Akoad et al, 2006
	No. of patients	% of patients	
Rupture			Complications include pleurisy, pleural effusion, empyema and broncho-hepatic fistula
- pleural (PL)	2	6.67%	
- Peritoneal (PT)	1	3.33%	
Septicemia	2	6.67%	
Liver failure	-	-	
Renal failure	1	3.33%	
CNS disturbance	-	-	
Total	6	20%	15-20%

Out of 30 cases, 6 cases (20%) show at least 1 of the complications. Rupture of abscess occurred in 2 patients (6.67%), into pleural cavity who were treated by ICD drainage.

(12) COMPLICATIONS OF TREATMENT (pig tail catheterization)

Complication	No. of patients	%	Ogawa T et al, 1999
Infection (port site & deep seated)	-	-	-
Failure of resolution	-	-	-
Haemorrhage	-	-	-
Recurrence	-	-	-
Pleural complication	1	3.33%	4%
Fever	-	-	-

Out of 30 patients, 1 patient had pleural abscess due to transpleural puncture, who was treated by ICD drainage. My series had 100% success rate with no recurrence. Summit Kapadia et al (2002) had 88% success rate. Rajak et al (1998) had 100% percent success rate with percutaneous catheter drainage.

(13) MORTALITY RATE AND HOSPITAL STAY

None of the patients expired in my study.

Median hospital stay is 5 days with range from 2 to 25 days.

Median hospital stay	Days
My study	5 days

Mortality rate	Percentage %
My study	0%
A.H. Mohsen et al, 2002	12.3%
Fong-Fu Chou et al, 1997	15.5% (catheter drainage related)

SUMMARY

30 cases of pyogenic liver abscess (treated by percutaneous pigtail catheterisation) were studied in our institute.

Inference of this study is:

- Maximum cases are seen in 3rd to 5th decade of life with mean age of 45 years.
- Male to female ratio was 9:1.
- History of alcoholism was present in 80% of patients and smoking in 20% of patients.
- Non hygienic drinking water source was identified in 76.7% patients.
- Most of patients (63.3%) came from low socio-economic class.
- 73.3% patients presented with acute signs and symptoms.
- Only 30% patients had raised serum bilirubin level.
- The utility of pus culture in my study is very low which is due to problem with sample collection, delay in culture and sensitivity of laboratory.
- 26.7% patients had x-ray abnormalities.
- Ultrasonography was extremely helpful for diagnosis & treatment.
- Almost 100% patients responded to percutaneous USG guided liver aspiration drainage catheter. Only 10% of patients with associated non communicating multiple small abscesses with larger abscess required percutaneous needle aspiration in addition to pigtail catheterization for the larger abscess.
- 80% of patients had abscess on right side of liver.
- None of the patients had recurrence of abscess after percutaneous catheter drainage.
- Most common complications of pyogenic liver abscess were rupture in to thoracic cavity & septicemia.
- Most common complication of treatment was pleural abscess due to transpleural puncture.
- No mortality was seen.

CONCLUSION

From the above interference it is concluded that liver abscess is a disease of middle age group (31-50 years) which is most commonly seen in men with alcoholism, low socioeconomic class, non hygienic water source and smoking. Fevers, abdominal pain, nausea, anorexia with acute & subacute onset are the presentation of most of the patients. Percutaneous pigtail catheter insertion is new modality of treatment. Percutaneous catheter drainage reduces the need for multiple aspirations. Percutaneous catheter drainage can reduce need for exploratory laparotomy. Laparotomy should be reserved for complicated liver abscesses like rupture. Ultrasonography is the choice of diagnosis & USG guided percutaneous pigtail catheter drainage under antibiotic coverage has no recurrence & better compliance of the patient.

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