EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 6
Issue: 12
310-316
Year: 2019

A CLINICO-SOCIO-DEMOGRAPHIC PROFILE AND MANAGEMENT OF LIVER ABSCESS

Dr. Anuradha Salvi[1], Dr. Rajendra Prasad Bugalia[2*], Dr. Rajendra Mandia[3]

[1]Ex- Assistant Professor Department of Obstetrics. & Gynae, SMS Medical College, Jaipur.
Assistant Professor[2*], Senior Professor[3]
Department of Surgery, SMS Medical College, Jaipur, Rajasthan.

***Corresponding Author: Dr. Rajendra Prasad Bugalia**
Assistant Professor**,** Department of Surgery, SMS Medical College, Jaipur, Rajasthan.

Article Received on 01/09/2019 **Article Revised on 22/09/2019** **Article Accepted on 12/10/2019**

ABSTRACT
Liver abscess are localized collections of necrotic inflammatory tissue caused by bacterial, parasitic or fungal agents within the liver. Mostly affected population in the developing countries due to poor sanitations. Ultrasonography is the preferred as the initial diagnostic method as well as therapeutic drainage of liver abscess. Medical antimicrobial therapy is required in all cases and sometimes suffices if abscesses are small. The main stay of treatment is the percutaneous drainage of hepatic abscesses, which is performed under ultrasound. It decrease the morbidity and mortality of patients. Surgery is limited to those patients where percutaneous drainage is impossible or has proven ineffective or the source of the abscess may require surgical treatment at which time the abscess may also be drained.

KEYWORDS: Liver abscess, Poor Sanitation, Ultrasound, Percutaneous Drainage.

INTRODUCTION

Liver abscess is a pus filled cavity within the liver usually caused by a biliary tract source.[1] Liver lies at the distal end of portal circulation and is therefore bathed with portal blood containing bacteria, parasites, ova, virus, products of digestion and other antigens hence subjected to numerous systemic infections.[2] Liver abscess may be pyogenic, mostly amoebic or rarely in severely immunocompromised patients it can be fungal. Bacteria entering the portal system are usually engulfed by the Kupffer cells in the liver.[3,4] A liver abscess may form if the quantity of the organisms exceeds the capacity of the Kupffer cells in the presence of an underlying liver disease or if the host is immunocompromised. The prevalence of liver abscess high in developing countries. Low socioeconomic status, poor sanitation, contaminated water supply, travel to or immigration from an endemic country have been implicated as predisposing factors.[4] Liver is the most common extra intestinal site of involvement in amoebiasis with amoebic liver abscess occurring in 3% to 9% of patients with entamoeba histolytica infections. The typical presentation is one of right upper quadrant pain, fever and jaundice. Anorexia, malaise and weight loss are also frequently seen.[5,6]

Imaging techniques are extremely helpful in the diagnosis of hepatic abscesses. Plain abdominal x-rays may demonstrate gas within the abscess cavity (10–20%) and elevation of the diaphragm.[7] Radioisotope scanning was the most common method used for a long period until new imaging techniques have been introduced.[8] Ultrasonography should be preferred as the initial diagnostic method. It has an accuracy rate of 80–90% in diagnosing intrahepatic abscesses larger than 2 cm in diameter with limitation in abscesses located in the dome of the liver.[9,10] US findings demonstrate an irregular margin and a hypoechoic lesion. Gas within the cavity is detected by the presence of microbubbles or diffuse hyperechoic spots with reverberation.[11]

Drainage of liver abscesses is the mainstay of the treatment. Drainage can be accomplished either surgically or ultrasound guided percutaneously.[12] Anaesthetic risk of the patient, the presence or absence of a coexisting primary intraabdominal pathology, the success rate of the procedure and expertise in managing these pathologies are the factors which should be considered in selecting the choice of therapy.[13,14] Improvements in diagnostic and therapeutic modalities besides the postoperative care have significantly reduced the high mortality. The reduced mortality is related to early diagnosis and proper and prompt treatment.[15]

Aim and Objectives

1. To Assess socio-economic, demographic profile of liver abscess.
2. To study Clinical Presentation in patients of liver abscess.
3. To study Diagnosis, Treatment and outcome in patients of liver abscess.
4. To find out associated complications of liver abscess

MATERIAL AND METHOD

This hospital based descriptive type of observational study was conducted in department of general surgery, SMS medical college Jaipur from June 2018 to May 2019 on 150 cases of liver abscess.

Inclusion Criteria

1. All patients with abscess aged above 12 years admitted in Department of surgery, Sawai Man Singh Hospital Jaipur.
2. Those who have given informed written consent for study.

Exclusion Criteria

1. Patients aged below 12 years.
2. Patients who develop liver abscess after liver trauma.

OBSERVATIONS

Table no 1: Age Distribution in Study.

S no	Age (years)	No of Cases	Percent
1	< 20	09	06
2	21-30	29	19
3	31-40	48	32
4	41-50	27	18
5	51-60	18	12
6	61-70	13	09
7	>70	06	04
8	Total	150	100

Table 2: Sex Distribution in Study.

S no	Sex	No of Cases	Percent
1	Female	26	17
2	Male	124	83
3	Total	150	100

Table 3: Cases According to Resident Area.

S no	Residence	No of cases	Percent
1	Rural	117	78
2	Urban	33	22
3	Total	150	100

Table 4: Liver Abscess in Different Socio-Economic Status.

S no	Socio-Economic Status	No of cases	Percent
1	Lower Middle Class	114	76.00
2	Middle Class	32	21.33
3	Upper Middle Class	04	02.67
4	Total	150	100

Table 5: Clinical Presentation of Cases.

S no	Frequency of Symptoms	No of cases	Percent
1	Pain Abdomen	147	98
2	Fever	140	93
3	Loss of Appetite	134	89
4	Nausea	110	73
5	Vomiting	95	63
6	Jaundice	93	62
7	Abdominal lump	86	57
8	Loose Motion	42	28
9	Loss of Weight	38	25
10	Cough	26	17
11	Constipation	09	06

Table 6: Physical Examination of Cases.

S no	Signs	No of cases	Percent
1	Hepatomegaly	134	89
2	Tenderness Rt Upper Abdomen	97	64
3	Pallor	84	56
4	Icterus	72	48
5	Petal Edema	52	34
6	Splenomegaly	46	30
7	Guarding and Rigity	23	15
8	Alcohol intake History	72	48

Table 7: Ultrasonography Finding.

S no	USG Finding	No of cases	Percent
1	Rt Lobe	123	82
2	Lt Lobe	16	10
3	B/L Lobe	11	08
4	Total	150	100
1	Single Abscess	128	86
2	Multiple Abscess	22	14
3	Total	150	100

Table 8: CECT Abdomen Finding.

S no	CECT Abdomen Finding	No of Cases	Percent
1	B/L Lobe Abscess	19	13
2	Multiple abscess	26	17
3	Peritoneal Rupture of abscess	16	11
4	Pleural Rupture of abscess	05	03
5	Total	66	44

Table 9: Type of Management in Liver Abscess.

S no	Type of Management	No of cases	Percent
1	Percutaneous drainage with Medical treatment	123	82
2	Open Surgical drainage with medical treatment	13	09
3	Medical treatment alone	O8	05
4	Mortality	06	04
5	Total	150	100

DISCUSSION

The present study was conducted on total of 150 patients of liver abscesses. Peak occurrence of liver abscess in the study was observed in the third decade of life which accounted for about 32% while the lowest number of patients belonged to the first two decade account about 6% of the cases. Similarly another study conducted between 1979-81 reported maximum number of between age group of 31-45 years.[4,16]

The prevalence of liver abscess was more common in men than women as observed in this study, affected male was 83% and female was 17%. In literature liver abscess is more common in male and ratio is 10:1 to 17:1.[7,17]

The prevalence of liver abscess cases was more in rural area than the urban area. Out of 150 patients 117 were from rural area and 33 patients from urban area. Another prospective study shows more prevalence of liver abscess in rural areas.[18]

The liver abscess is more common in lower socio-economic status. As this study indicates the prevalence of liver is higher in lower middle class about 76%.

Most common presentation of liver abscess was pain abdomen which was present in almost all patients. Second most common presentation was fever in about 93%, followed by loss of appetite 89%, Nausea 73%, vomiting 63%, jaundice 62%, other symptoms were abdominal lump, loss of weight, loose motion, cough and constipation.[19]

Most common sign in patients with liver abscess in our study was hepatomegaly which was present in 89% patients and tenderness Rt upper abdomen present in 64%. other signs were pallor, icterus, petal edema, splenomegaly, guarding and rigidity.[19]

About 48% patients have history of alcohol intake and all were males. Excessive alcohol intake makes liver more prone to develop liver abscess and is also responsible for

larger size of the abscess, greater frequency of complication and higher mortality. Alcohol lowers the body resistance, suppress liver functions and is accompanied by malnutrition and all these factors makes the person more prone to develop liver abscess. Various Studies report history of alcohol intake in patients with liver abscess about 35% to 80%.[8,9.20]

Ultrasound was the mainstay of the diagnosis and management of liver abscess and was performed in all patients under study. Besides confirming the diagnosis of liver abscess, the number single or multiple site right or left or both lobes and its proximity to port hepatis with or without intrahepatic biliary radical dilatation, size with its effect on biliary tree along with complications like rupture of liver abscess into peritoneal or pleural cavity could be documented. In the present study 86% cases had a solitary liver abscess while 14% had multiple liver abscess. Right lobe abscess was 82% while 10% had left lobe liver abscess, 8% cases had bilateral lobe abscess. Another study reported 73% cases of Rt lobe abscess, 17 % cases of Lt lobe and both lobe involvement in 10% of the cases.[21,22]

Computerized tomography (CT) has the advantage of detecting intrahepatic collections as small as 0.5 cm. This advantage is significant in patients with multiple small pyogenic abscesses. Pyogenic abscesses may have well-defined round or oral cavities or lobulated with poorly marginated edges on CT. The internal density of the abscess is usually low but it increases with contrast enhancement which increases the ease of diagnosis.[23]

In our study 66 patients out of 150 had CECT abdomen, in which 19 patients had bilateral lobe abscess, 26 patients had multiple abscess, 16 patients had peritoneal rupture of abscess, 5 patients had pleural rupture of abscess.

In our study 82% patients were managed by ultrasound guided percutaneous drainage (pig tail catheter) along with medical treatment. Open surgical drainage were done in 9% patients. These patients were ruptured liver abscess or with associated complications. 8 patients were managed conservatively by pharmacotherapy alone, these are the patients mainly with abscess cavity less than 5 cm.[8,24] Metronidazole was main drug of choice for the management of liver abscess. Medical management for uncomplicated liver abscess is indicated if size of abscess is 5 cm or less while therapeutic aspiration is indicated if the volume of abscess exceeds 200 ml.[24] 6 patients were dead during the treatment of liver abscess. These were patients with ruptured liver abscess with septicaemia and after surgical drainage with chest complications.

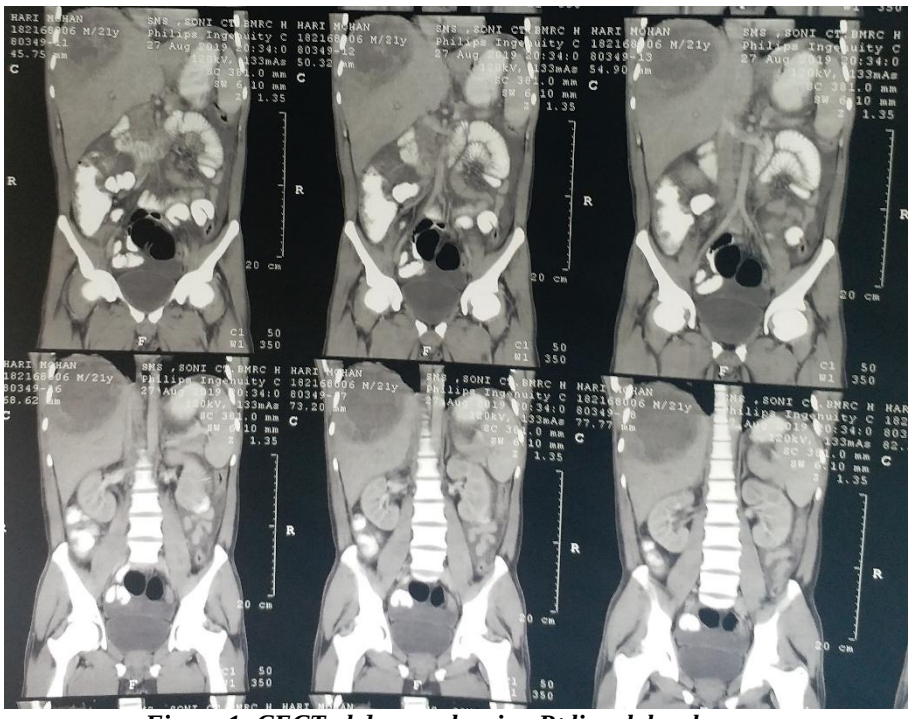

Figure 1: CECT abdomen showing Rt liver lobe abscess.

Figure 2: Ultrasound showing large liver abscess.

Figure 3: PATIENT WITH PIGTAIL CATHETER.

Figure 4: Anchovy sauce liver abscess.

CONCLUSION

Liver abscess is more common in population of lower socio-economic status and rural area due to poor sanitation and unhygienic food habits. The most common complain of liver abscess is abdominal pain and fever. Most of cases of liver abscess is diagnosed by ultrasonography abdomen. All cases of sonologically aspirable abscesses whether at presentation or during the course of the medical management can be managed with success by percutaneous drainage in addition to the drug treatment irrespective of the size of abscess cavity. Percutaneous drainage decrease the morbidity and mortality due to postoperative complications. Metronidazole is drug of choice for liver abscess. Ruptured cases of abscess can be managed by open drainage.

BIBLIOGRAPHY

1. Donovon A J, Yellin A E, Ralls P W. *Hepatic abscess. World J Surg. (1991); 15: 162–169.*
2. Rajak C L, Gupta S, Jain S. *Percutaneous treatment of liver abscesses: Needle aspiration versus catheter drainage. Amer J Radiol. (1998); 170: 1035–1039.*
3. Seeto R K, Rockey D C. *Amebic liver abscess: Epidemiology, clinical features and outcome. West J Med. (1999); 170: 104–109.*
4. Herman P, Pugliese V, Montagnini A L. *Pyogenic liver abscess: The role of surgical treatment. Int Surg.*
5. Mischinger H J, Hauser H, Rabl H. *Pyogenic liver abscess: Studies of therapy and analysis of risk factors. World J Surg. (1994); 18: 852–858.*
6. Tazawa J, Sakai Y, Maekawa S. *Solitary and multiple pyogenic liver abscesses: Characteristics of the patients and efficacy of percutaneous drainage. Amer J Gastroenterol. (1997); 92: 271–274.*
7. Gerzof S G, Johnson W C, Robbins A H, Nabseth D C. *Intrahepatic pyogenic abscesses: Treatment by percutaneous drainage. Amer J Surg. (1985); 149: 487–494.*
8. Chou F F, Sheen-Chen S M, Chen Y S. *Prognostic factors for pyogenic abscess of the liver. J Amer Coll of Surg. (1994); 179: 727–732.*
9. Braga LL, Gomes M. *Household epidemiology of entamoeba histolytica infection in an urban community in north eastern Brazil. Am J Trop Med Hyg.2001 oct; 65(4): 268-71.*
10. Adams EB, MacLeod IN. *Invasive amebiasis,II. Amoebic liver abscess and its complication. Medicine (Baltimore). 1977 jul; 56(4): 325-34.*
11. Juimo AG, Gervez F, Angwafo FF. *Extraintestinal amebiasis. Radiology 1992 Jan; 182(1): 181-3.*
12. Pitt HA. *Surgical management of hepatic abscess. World J Surg. 1990-july-Aug; 14(4): 498-504.*
13. Hope WW, Vrochides DV. *Optimal treatment of hepatic abscess. Am Surg 2008; 74(2): 178-82.*
14. Chou FF, Sheen-Chen SM. *Single and multiple pyogenic liver abscesses: clinical course, etiology and result of treatment.World J Surg 1997; 21(4): 384-88.*
15. Malik AA, Bari SU, Rouf KA, Wani KA. *Pyogenic liver abscess: Changing pattern in approach. World J Gastrointest surg 2010; 2(12): 395-401.*
16. Gyorffy EJ, Frey CF, Silva J Jr, McGahan J .*Liver abscess Diagnostic and therapeutic strategies. Ann Surg. Dec 1987; 206(6): 699-705.*
17. Sarda AK, Bal S, Sharma AK, Kapur MM. *Intra peritoneal rupture of amoebic liver abscess. Br J Surg. 1989 feb; 76(2): 202-3.*
18. Kapoor OP, Joshi VR. *Multiple amoebic liver abscesses. A study of 56 cases. J Trop Med Hyg. 1972 Jan; 75(1): 4 – 6.*
19. Sharma MP, Sarin SK. *Amoebic liver abscess in a north Indian hospital current trends. Br J Clin pract 1987; 41: 7789 – 93.*
20. Mehta RB, Parija SC. *Management of 240 cases of liver abscesses. Int Surg 1986; 71: 91 – 4.*
21. Rosoff Sr L. *Amoebic abscesses of the liver. In Davis C: Textbook of Surgery: The biological basis of modern surgical practise 1977; 10 th Ed: 1214.*

22. Lodhi S, Sarwari AR. *Features distinguishihng amebic from pyogenic liver abscesses: a review of 577 adult cases.Trop Med Int Health 2004; 9: 718 – 23.*
23. Khanna S, Chaudhary D. *Experience with aspiration in amebic liver abscess. Report from an endemic area. Eur J C, in microbiol Infect Dis 2005; 24: 428 – 30.*
24. Sharma MP, Dasarthy S. *Prognostic markers in amoebic liver abscess: A prospective study. Am J gastroenterol 1996; 91: 2584 – 88.*