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A Study on Clinical Presentation, Surgical Complications and Management of Amoebic Liver Abscess Cases over a Period of 2 Years, in GSL Medical College, Rajahmundry

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Abstract: ***Amoebiasis is largely a disease of tropical and developing countries. Two species of amoeba infect humans, entamoeba dispar is associated with an asymptomatic carrier state and not with disease. Amebic liver abscess is the most common extra intestinal form of invasive amebiasis. It follows a bimodal age distribution (2-3 years and over 40 years), low socioeconomic status; heavy alcohol consumption is commonly reported and may render the liver more susceptible to amebic infection. Patients more likely present with abdominal pain, diarrhea, and hepatomegaly .The first line treatment in uncomplicated amebic abscess should be amebicidial drugs, aspiration and surgical intervention is needed in complicated cases. In our study of 34 patients, amoebiac liver abscess was common in men aged more than 40 years from low socio economic group and alcoholics. Majority (41.1%) of the patients presented with pain abdomen with fever and tenderness in the right hypochondrium. The most common complication was rupture into peritoneum which was managed surgically by emergency laparotomy and drainage, out of the three patients who developed pleural complications two were managed with ICD and one patient who developed empyema underwent decortication. One patient who developed cardiac tamponade, a rare complication was treated with pericardiocentesis.***

Keywords: amoebic liver abscess**,** cardiac tamponade

1. Introduction

Amoebiasis is largely a disease of tropical and developing countries. Two species of ameba infect humans. Entamoeba dispar is associated with an asymptomatic carrier state and not with disease. E.histolytica is responsible for all forms of invasive disease. Amebic liver abscess is the most common extra intestinal form of invasive amebiasis and an estimated 100,000 people succumb to this disease each year(1).

The life cycle involves cysts, invasive trophozoites, and fecally contaminated food or water to initiate the infection (2, 3). Feco-oral transmission occurs; the cyst passes through the stomach into the intestine unscathed, and pancreatic enzymes start to digest the outer cyst wall. The trophozoite is then released into the intestine and multiplies there. Normally, no invasion occurs, and the patient develops amebic dysentery or becomes an asymptomatic carrier. In a small number of cases, the trophozoite invades through the intestinal mucosa, travels through the mesenteric lymphatics and veins, and begins to accumulate in the hepatic parenchyma, forming an abscess cavity. Liquefied hepatic parenchyma with blood and debris gives a characteristic "anchovy paste" appearance to the abscess (4).The vast majority of these infections are acquired in the developing world. Histolytica is endemic in Mexico, India, Africa, and parts of Central and South America. High-risk groups include sexually active homosexual men, immigrants, tourists who travel to endemic areas, institutionalized people, and those with human immunodeficiency virus (HIV)(5)follows a bimodal age distribution (2-3 years and over 40 years),Low socioeconomic status and unsanitary conditions are significant independent risk factors for infection(5). It is 10 times as common in men as in women and is a rare disease in children (3). Heavy alcohol consumption is commonly reported and may render the liver more susceptible to amebic infection. Patients with amoebic liver abscesses were more likely to present with abdominal pain, diarrhea, and hepatomegaly [6].

The first line treatment in uncomplicated amebic abscess should be amebicidial drugs. Metronidazole is the drug of choice and has replaced the use of emetine and chloroquine.[8]Metronidazole is effective against both the intestinal and hepatic phase. 750 mg three times a day for 7–10 days is recommended. [7].

Routine aspiration of liver abscess is not indicated for diagnostic or therapeutic purposes.[9]Aspiration is done when no clinical improvement in 48 to 72 hours, Left lobe abscess, Large abscess having impending rupture / compression, Thin rim of liver tissue around the abscess (<10 mm), Seronegative abscesses, Failure in the improvement following non-invasive treatment after 4 to 5 days [10].

Open surgical drainage is rarely indicated and may be required in the setting of (11).large abscess with a poor yield on needle aspiration or percutaneous drainage, clinical deterioration despite attempted needle aspiration, complicated ALA (like ruptured abscess in peritoneal cavity with features of peritonitis, ruptured in the pleural cavity / pericardial cavity/ adjacent viscera.

The most common complications of amebic liver abscess arise from rupture of the abscess into surrounding organs or anatomical spaces. Communication occurs into the peritoneum, viscera, and large vessels on one side of the diaphragm and the pleura, bronchi, lungs, and pericardium on the other.

Drainage of the abscess cavity, administration of an amebicidal agent, and surgical drainage of the peritoneal cavity can lead to a favorable result, even when the amebic liver abscess has ruptured. [13]Cases of pericardial rupture of an amebic liver abscess developing cardiac tamponade similar to this case and relieved by pericardiotomy have been reported. [14],[15],[16],[17] On the other hand, intra-pericardial ruptures have been managed only by percutaneous drainage when emergency intervention is not necessitated by development of cardiac tamponade; as reported from India. [18], [19].Pulmonary complications occur in 7-20% of patients with amoebic liver abscess, and may present as pleural effusion, empyema, lung abscess or a bronchohepatic fistula [20]On follow up after cure, patients show few symptoms and usg shows persistent hypo echoic lesion. It takes 6-9 months for the disappearance of USG findings. (12). the patterns of resolution on sonographic follow up include :(12) complete disappearance of the cavity within 3 months and rapid reduction of upto25% of the original cavity size and then a delayed resolution.

2. Aims and Objectives

1) To find out various predisposing factors for amoebic liver abscess.
2) To find out various complications of amoebic liver abscess.
3) To compare the outcome of various complications of amoebic liver abscess after surgical intervention.

3. Materials and Methods

The study was conducted in the department of general surgery, GSL general hospital Rajahmundry during a period of two years, August 2017 to August 2019.

a) **Study design:** prospective study
b) Study period: 2years August 2017 to August 2019.
c) Study subjects: All the patients with amoebic liver abscess and related complications.
d) **Inclusion Criteria**: All the patients diagnosed with amoebic liver abscess attending to GSL surgical OPD.
e) Exclusion Criteria:
- Patients diagnosed with phylogenic liver abscess.
- Patients diagnosed with hydrated cysts of liver.

Table 1: Age Distribution

Age Distribution	Number	Percentage
<20	NILL	0
20-40	14	41.2%
>40	20	58.%

Out of the 34 patients, majority 20 patients are aged above 40 years and the remaining 14 patients are between the ages 20-40 years. No cases with age less than 20 years are reported.

Table 2: Sex Distribution

Sex	No. of patients	Percentage
M	27	79.4%
F	7	20.6%

Majority of cases 27, are male and females are only 7. Thus shows the male predominance.

Table 3: Predisposing Factore

Factors	No of patient	Percentage
Alcohol	16	47%
Low socio eco	24	70.5%
Immuniosuppression	7	20.5%

Table 4: Symptoms

Presenting symptoms	No of patients	Percentage
Abdominal pain	13	38.2%
Pain with fever	14	41.1%
Abdominal pain, jaundice, fever	4	11.7%
Pain abdomen, breathlessness	3	8.8%

Majority of patients 14, presented with abdominal pain and fever. 13 had only pain abdomen. Few patients had associated jaundice. 3 patients with pulmonary involvement presented with breathlessness along with pain abdomen.

Table 5: Signs

Signs	No of patients	Percentage
Tenderness right hypochondrium	14	41.1%
Hepatomegaly	10	29.4%
Guarding, rigidity	7	20.9%
Decreased breath sounds	3	8.8%

Table 6: Complications of Amoebiac Liver Abscess

Complications	No of patients	Percentage
Rupture	9	26.4%
Pulmonary	3	8.82%
Cardiac	1	2.94%

Table 7: Management

Diagnosis	Treatment	No. of patients
Peritonitis	Exploratory laparotomy and drainage	8
Subdiaphramatic rupture	Pigtail catheterization	1
Hepatico-pleural fistula	Icd	1
Broncho-pleural fistula	Icd	1
Hepatico pleural fistula with empyema	Decortication	1
Cardiac tamponade	Pericardiocentesis	1

All the patients who presented with rupture of abscess, exploratory laparotomy and drainage was done. Sub-diaphramaticrupture of the abscess was drained with pigtail. Out of the 2 hepatico - pleural fistulas, one case resolved with ICD, the other case was posted for decortications as the patient developed empyma. 1 case of broncho-pleural fistula was treated with ICD. Pericardiocentisis was done for the patient who developed cardiac tamponade.

4. Conclusion

Amoebiac liver abscess is most common in age over 40 years with male predominance

It is most common risk factors are low socio economic group and alcohol consumption.

Most common clinical presentation is abdominal pain with fever, tenderness in the right hypochondrium.

Liver abscess rupture and peritonitis is the most common complication

Exploratory laparotomy and drainage was done to all the cases with peritonitis, post operatively prognosis was good.

Hepatico pleural and broncho pleural fistulas resolved with ICD

Empyma developed as a complication of hepatico pleural fistula was managed by decortications.

Cardiac tamponade, a rare complication was managed by pericardiocentesis

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