



STUDY OF RUPTURED AMOEBIC LIVER ABSCESS

General Surgery

**Dr. Harshal
Vikram**

Resident, Department of Surgery, Sir Takathsinhji Hospital, Bhavnagar.

Dr Vikram Gohil

Associate Professor, Department of Surgery, Sir Takathsinhji Hospital, Bhavnagar.

ABSTRACT

Introduction: Amoebic liver abscess (ALA) is the most commonly seen extra intestinal manifestation of Entamoeba infection.[1] Out of which, a rare complication of amoebic liver abscess is rupture of liver abscess. We report 50 cases of ruptured amoebic liver abscess coming with acute abdomen which were operated at Department of Surgery, Sir Takathsinhji Hospital, Bhavnagar march 2021 to August 2022. Surgical treatment in these cases should be carried out in a timely fashion prior to the presentation of systemic repercussions or death. **Result:** Out of all patients, 43 patients were male and 7 were female and 45 patients were chronic alcoholic. The mean age was 49.5 years. At presentation, most cases had clinical signs of generalized peritonitis. Ultrasonography for collection in peritoneal cavity showed moderate free fluid with internal echoes suggestive of pyoperitoneum. Out of which 20 patients had free air under the diaphragm. All 50 patients underwent resuscitation and then shifted for surgery. All underwent exploratory laparotomy for ruptured liver abscess. Intraoperatively, 09 patients had a single abscess in the right lobe, 07 had abscess in both lobes of liver and 34 had multiple abscesses in right lobe. There was no case of exclusive left lobe abscess. Out of all, 19 patients had perforation in the cecum, 09 patients had a perforation in ascending colon. Exploratory laparotomy and peritoneal wash with wash to abscess cavity was done in 22 patients. Limited resection (Caecal resection) with double barrel ileo-colostomy was done in 9 cases. Primary closure of perforation with proximal ileostomy was done in 9 patients. Right hemicolectomy with end ileostomy and transverse colostomy as mucus fistula was done 10 cases. Liver abscess in all 50 cases were amoebic as amoebic serology of pus was positive in all cases. Postoperatively, 20 patients had pleural effusion, 04 had empyema, 38 patients had sepsis and 20 patients died. **Conclusion:** Perforation of proximal large bowel is very frequent condition found in patients of ruptured amoebic liver abscess presenting as acute abdomen with high mortality. Surgical intervention is mandatory in all these cases.

KEYWORDS

amoebiasis, Ruptured liver abscess, Caecal perforation, exploratory laparotomy.

INTRODUCTION

Entamoeba Histolytica is endemic in many parts of world. It is spread by the fecal-oral route.^[1] The presentation includes wide spectrum depicting pathology from asymptomatic carrier state to dysentery to fulminant colitis or liver abscess and colonic perforation.

In invasive amoebiasis mainly in immunocompromised subjects or malnourished or chronic alcoholics, the trophozoites penetrate the intestinal mucosal layer causing amoebic colitis which is carried along the portal circulation to produce liver abscess and this abscess may rupture into peritoneal, pericardial or pleural cavity. Thus, it carries a high rate of morbidity and mortality and mainly occurs in malnourished patients of developing countries.

As such Perforation of the caecum from amoebiasis itself is infrequent, but it is very frequent in cases of ruptured amoebic liver abscess. Primarily caecal pathology presents mainly as acute abdomen which poses a great challenge to timely manage as most cases are often misdiagnosed and thus require urgent intervention.^[2] These pathologies often mimic acute appendicitis. This misdiagnosis can often lead to over or under-treatment of the actual pathology thus resulting in higher morbidity and mortality. Ruptured pyogenic liver abscess should be suspected if septic shock and diffuse abdominal pain are found in a patient with liver abscess. Thus, timely and accurate identification of a primary cecal pathology is important so that patient outcome can be improved. This study was done to highlight the incidence and outcomes of amoebic liver abscess associated with colonic perforation as documented by us at Dhiraj general hospital, Vadodara.

MATERIALS AND METHODS:

We conducted a clinical, retrospective, and observational study which presented cases of ruptured amoebic liver abscess from March 2021 to August 2022 at Department of Surgery, Sir Takathsinhji Hospital, Bhavnagar. A total of 50 patients presenting with acute abdomen at having amoebic liver abscess were enrolled in study. All patients had undergone emergency laparotomy, and the cases with amoebic liver abscess established on histopathology were studied in terms of incidence, clinical presentation and outcomes.

Inclusion criteria: All patients with ruptured amoebic liver abscess

Exclusion criteria: Patients with other causes of gut perforation causing peritonitis.

A detailed case study of all the patients who met the inclusion criteria were studied in terms of age, sex, risk factors, clinical presentation, radiological investigations, treatment plan, intraoperative findings, post operative complications, course of treatment, mortality data. This data was collected from indoor records of the patient, operation theatre notes and outpatient department follow up of cases.

All the above cases which were diagnosed with ruptured liver abscess were aggressively resuscitated, undertaken investigations like complete blood count, blood group, coagulation profile, serology, chest xray, abdomen xray, ultrasonography and then shifted to operation theatre. Intraoperative findings like pus filled peritoneal cavity, abscess cavity in liver, bowel adhesions, perforation in large bowel were seen and documented. The peritoneal cavity and abscess cavity were irrigated with warm normal saline till the returns were clear. The abdomen was closed with interrupted one size ethilon non-absorbable suture material after inserting three drains (one subhepatic, one in abscess cavity other in pelvic cavity). Postoperatively, all patients received antibiotics and were discharged accordingly, later followed up for further course of treatment in outpatient department.

RESULTS:

Table 1: Distribution According To Sex

Sex	Male	Female	Total
Number of patients	43	7	50
percentage	86%	14%	100%

Table 2: Age Wise Distribution

Age groups(in years)	Number of patients	percentage
30-40	07	14%
40-50	20	40%
50-60	20	40%
60-70	03	6%
Total	50	100%

Table 3: Clinical Presentation

Clinical presentation	Number of patients
Abdominal pain /RUQ pain	44
Abdominal distention	36
Fever	38
Breathlessness/Tachypnoea	32

Jaundice	20
Nausea /Vomiting	40
Total	50

Table 4: Association With Alcoholism:

	Number of patients
Alcoholic Patient	45
Non Alcoholic Patient	05
Total	43

Table 5: Associated Comorbidities :

Comorbidities	No. of Patients
Diabetes	25
Tuberculosis	06
CRF (On Dialysis)	01
CHF	01
MI	02
Valvular Heart Disease	01
Without co-morbidities	17
Total	50

Table 6: Surgical Procedure

Surgical procedure	Number of patients
Laparotomy and peritoneal lavage with wash of abscess cavity	22
Caecal resection(limited resection) with double barrel ileocolostomy	09
Right hemicolectomy with End ileostomy and transverse colostomy as mucous fistula	10
Perforation closure with proximal ileostomy	9
Total	50

Table 7: Major Complications

Major Complications	Number of patients
Plural effusion	20
Empyema	4
Postoperative sepsis	38
Death	20

DISCUSSION:

Our study showed male predominance in patients affected with ruptured liver abscess with 43 patients (86%) which showed similarity with Bhatia et al and Tiwari et al.^[3,4]

In our study, 20 patients were of 40-50 years i.e. 40% and the mean age was 47 years whereas in Pang et al. in their study concluded the majority of patients affected were in age group of 50-65 years^[5] Abdominal pain and fever were the most common presentation in our study whereas in shrikant et al, Pain in abdomen and tenderness was the most common presentation of patients (100% cases).^[6]

In our study, 19 patients had perforation in the cecum whereas in 09 patients had a perforation in ascending colon comparing with kaushal et al, 43 patients revealed cecal perforation and other pathologies that were encountered included volvulus, diverticulitis, and idiopathic typhlitis.^[7]

As our study showed mortality rate of 32.55% comparing with chou FF et al in which the overall mortality rate was higher i.e. (59%)^[8]

CONCLUSION:

Amoebiasis is the second leading cause of death from parasitic disease worldwide.^[9] Although, amoebiasis is a common parasitic infection, fulminant amoebic colitis remains a very rare complication with a reported incidence of 1%. Even with aggressive management of this entity, patients have got a poor prognosis. Surgical intervention i.e. draining the abscess and cleaning the abdominal cavity is the only way of saving the patient's lives. The different approaches to surgical management of these patients is discussed above, wherein early identification and timely intervention remain as mainstay of treatment in all cases. Large bowel Perforation is the frequent surgical complication associated with ruptured amoebic liver abscess occurring principally in masculine gender and in the fourth decade of life. Resection and stoma creation is the procedure of choice that can resolve the septic focus from the first surgical procedure, depending on the general status of the patient. Thus, The occurrence of a rupture in the evolution of liver abscess is a factor of mortality. A good

knowledge of the predictive factors of rupture can guide therapeutic choice between a medical treatment alone or with percutaneous drainage. This can allow to minimize the frequency of the rupture and others complications, thus reducing the morbidity and the mortality.^[10] However, morbidity and mortality are high, and there is a tendency for these to be lower on comparing initial cases with those with recently conducted surgical procedures.

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