ORIGINAL RESEARCH PAPER

General Surgery

A CLINICAL STUDY, DIAGNOSIS AND MANAGEMENT OF LIVER ABSCESS AND THEIR OUTCOMES IN A TERTIARY CARE CENTRE

KEY WORDS:

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Introduction:
Liver abscess was described early in 460-377 B.C. by Hippocrates, still it remains a challenging situation (especially in tropical countries due to poor hygiene & sanitation, alcoholism and reduced literacy rate) due to its highly variable presentation, causing diagnostic difficulties [1].

Liver abscess is a disease in which the pathogen invades the liver, proliferates, and forms pus through the body's inflammatory responses.It is the most common abscess in the abdominal cavity, and accounts for about half of all intraabdominal abscesses [2].

The incidence of liver abscess ranges from 2.30–17.59 per 100,000 individuals every year and is increasing worldwide [2,3].

Age, antibiotic use, comorbid diseases, such as diabetes and underlying hepatobiliary disease, and regular use of proton-pump inhibitors may facilitate the incidence of liver abscess 4,5,6. It has become an emerging infectious disease, especially in Southeast Asia [7].

As India is a one of the tropical country and home to 400 million people harbouring E.histolytica, the causative organism of amoebic liver abscess, it is important to have thorough understanding of the liver abscess.

The epidemiology of liver abscess has changed over the past several decades due to several factors such as economic status, hygiene practices, the increasing elderly population and associated underlying comorbid diseases, and increased incidence of hepatobiliary procedures 8,9. Escherichia coli is the most common causative organism; however, infections due to Klebsiella pneumoniae have been rising in recent decades. Direct contact via the biliary tract, leakage from the intestine, and hematogenous spreading can be routes for infection as sociated with liver abscess.

Due to the rising incidence in alcoholism, diabetics & immunocompromised status, liver abscess becomes a matter of grave concern as complications rate are high especially in this sub-group, leading to increased morbidity and mortality. Liver abscesses continue to be an important cause of morbidity and mortality in tropical countries. However, recent advances in interventional radiology, intensive care, progress in antibiotic therapy, and use of sonography and computerized tomography scanning of the abdomen have led to early diagnosis and treatment of patients with liver abscess, thus improving the patient outcome.

Previously liver abscess was regarded as a high morbidity disease requiring open surgical drainage, with mortality rates between 9% and 80%. If untreated, it was uniformly fatal. In the last quarter of a century we have witnessed a major paradigm shift in the management of pyogenic hepatic abscesses/amoebic liver abscesses, with a concomitant decrease in mortality to 5-30%. However, much work remains to be done.The story has not ended: it has just begun.

All these factors has inspired me to select Liver Abscess as my thesis topic which assumes more importance in our country where rural population constitutes approximately 70% and therefore it is mandatory to develop appropriate & realistic guidelines for early diagnosis and management strategies for liver abscesses in order to reduce the morbidity and mortality associated with it.

Materials and methods
Research methodology organizes all the components of the study in a way that is more likely to lead valid answers. It has crucial implications for validity and credibility of the study findings

Period of Study:
The study was conducted during 1st October 2020 to 30th September 2022.

Research Design: The research design selected for this study is Prospective It is a longitudnal follow up study.

Inclusion and Exclusion Criteria
Inclusion criteria:
- Patient who are willing to participate in the study
- Patients with liver abscess diagnosed by USG / CT scan admitted in the hospital, who are of and above 18 years of age of either sex.

Exclusion criteria:
- Liver abscess associated with ascites, hepatobilliary malignancies, cirrhosis or coagulopathies.
- Traumatic liver abscess and past history of liver abscess.

Study Population:
The population for this study includes all the patients of liver abscess admitted in the hospital during study period, who are of and above 18 years of age of either sex.

Study Setting:
Study was take place in OPD & IPD of Department of Surgery tertiary care hospital.

Sample size: For present study sample size is 50 cases.

Methodology:
After obtaining the permission from the institution ethics

committee this study was conducted in the department of General Surgery from October 2020 to October 2022 after applying the inclusion and exclusion criteria, patients was selected for this study. Study group consists of patients from IPD & OPD of Department of General Surgery, at our tertiary care centre with liver abscess diagnosed by USG / CT scan. A detailed history of the patient was taken regarding name, age, socio economic status, address, occupation, Chief Complain. A detailed history was taken. Patients were followed up after discharge to see liver abscess recurrances every 15 days for 2 months and monthly for 4 months.

As per indication patient with liver abscess was taken for aspiration or pigtail catheter drainage under ultrasonography guidance after taking informed consent and explaining the complications of the procedure. Local anaesthesia at the site of drainage was given. Percutaneous aspiration will be done by 18 G spinal needle or percutaneous drainage was done by 12-F pigtail catheter insertion into the abscess cavityas per indication. Laproscopic procedure was done as per location of the abscess under genral anaesthesia.Umblical port was used for camera and other ports was placed as per the location of the abscess.

In open surgical drainage trans-peritoneal approach is taken. Abscess area was opened. Pus was evacuated. Abscess cavity and peritoneal cavity was drained with no. 32 abdominal drain after wash with lukewarm normal saline. The drain was kept in situ untill drain becomes minimal. USG abdomen was done before removing the abdominal drain to know the status of the cavity.

Demographic & Social profile: Name, age, Gender, occupation sociodemografic. Detailed clinical history: chief complaints, history of presenting complaints: abdomen pain, family history, personal history etc.

Local and Physical Examination: Vital parameters, Abdenominal examination inspection, palpation.

Lab Investigations: : CBC, LFT, KFT, PT.INR, HIV, HbsAg, Fasting and Post meal blood sugar level Urine routine microscopy, Blood culture .

Radiological Investigations: Chest X-ray PA view, X-ray abdomen erect, USG abdomen & pelvic, CT abdomen, CB NAAT:

Complications if developed were assessed in detail. Management strategies for liver abscess was as followed:

- Medical Mangement
- Image guided drainage
- Laproscopic/Open surgical drainage.

Modalities of Treatment:
According to specific criterias following modalities of treatment were given:

1. Conservative: Start broad spectrum antibiotic treatment and continue for 72 hours if
A) Abscess size is less than 5 cms.
B) Patient is responding to treatment within 72 hours.
On discharge patient will be given antibiotics for 2-3 weeks depending on the response.

2. Indications for percutaneous aspiration:
A. Patient not responding to antibiotic treatment within 72 hours.
B. Abscess size more than 5cms.
C. Multiple liver abscesses
D. 1st trimester pregnancy where drugs are contra indicated

3. Indications for pigtail drainage:
A) Failure of percutaneous aspiration.
B) Abscess size more than 10 cms.
C) Thick viscous pus

4) Laproscopic /Open surgical drainage
A) Failure of percutaneous drainage.
B) Ruptured abscesses
After through wash with warm normal saline of abscess and peritoneal cavity, drain was kept till it drains minimal.

CONCLUSION

Most common liver abscess presenting in our institution was amoebic in nature. Most common age of presentation was 45 years. Most common presentation of liver abscess was abdominal pain. Most common clinical sign was intercostal tenderness. Alcoholism becomes the most frequently associated risk factor. Ultrasound and CT scan abdomen plays an important role in diagnosing most of the liver abscess patients presented in our institution. Eighteen percent (18%) of the liver abscess patients were managed successfully with medical management alone. Those who are all not responding to medical management were treated with image guided drainage/aspiration. Forty five percent (45%) of the patients presented in our institution were successfully treated by image guided drainage/aspiration. Those who developed complications (ruptured liver abscess) and who are all not responding to conservative line of management required emergency open drainage. Thirty seven percent (37%) of patients who developed complications on presentation or later were treated with open drainage in our institution.

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