



“A PROSPECTIVE OBSERVATIONAL STUDY ON THE MANAGEMENT OF AMOEBIC AND PYOGENIC LIVER ABSCESS “

Dr. Santosh Kumar	Senior Resident, Department of General Surgery IGIMS Patna.
Dr. Neel Ketu	Senior Resident, Department of General Surgery IGIMS Patna.
Dr. Sanjit Prasad	Senior Resident. Department of General Surgery IGIMS Patna.
Dr. Krishna Gopal*	Additional prof. Department of General Surgery IGIMS Patna. *Corresponding Author

ABSTRACT **Background:** The management of pyogenic liver abscess differs radically from that of amoebic liver abscess. Medical management is the cornerstone of therapy in amoebic liver abscess while early intervention in the form of surgical therapy or catheter drainage and parenteral antibiotics is the rule in pyogenic liver abscess. The prognosis of amoebic abscess is much better than that of pyogenic abscess and usually a quick response to therapy is seen in amoebic abscess. **Material and Methods:** The Prospective observational study, the study was carried out in the Department of General Surgery in Indira Gandhi Institute of Medical Sciences Patna Bihar. Total 50 Patients Study, All patients admitted in General Surgery ward with liver abscess, duration of one year. **Conclusions:** Young alcoholic male from lower socioeconomic group with amoebic liver abscess presenting as solitary right lobe abscess was the most common pattern in our series.

KEYWORDS : Amoebic liver abscess, CLD,

INTRODUCTION

Both amoebic and pyogenic liver abscesses are among the important cause of morbidity and mortality in tropical countries. Recent radiological advances like ultrasonography and computed tomography scan since 30 years with interventional techniques has resulted in introduction of radiological guided aspiration and drainage of most of the liver abscess.

The primary mode of treatment of amoebic liver abscess is medical treatment however is found to be refractory in many cases. Also secondary bacterial infection may complicate certain amoebic liver abscess cases. In such patients and in patients with pyogenic liver abscess, aspiration has been the traditional mode of treatment. Operative drainage is associated with significant mortality and morbidity. In recent years, imaging guided percutaneous drainage has been increasingly used to treat liver abscess with reported success rates ranging from 70 to 100%, making surgical intervention is typically unnecessary.

In the present study we are interested to study the effectiveness of various treatment modalities for liver abscess, malecot's catheter in continuous percutaneous drainage of liver abscess, aspiration as a treatment for liver abscess and also aimed at the study of usefulness of percutaneous catheter drainage procedure in morbid patients not fit for open surgical drainage, those not responding to medical line of management, recurrent abscesses following needle aspiration and multiple abscesses. Management of different types of liver abscess patients at appropriate time can significantly reduce mortality and morbidity of liver abscess. With this background, we have proposed this study to evaluate different management protocols according to the type of liver abscess and their efficacy in treatment.

MATERIAL AND METHODS

The Prospective observational study, the study was carried out in the Department of General Surgery in Indira Gandhi Institute of Medical Sciences Patna Bihar. Total 60 Patients Study, All patients admitted in General Surgery ward with liver abscess, duration of one year. This study proposal has not yet been cleared by the ethical committee and once it gets cleared we will further proceed with the research work.

Study tools:

BHT and OPD ticket of the patients, Routine laboratory investigations, USG whole abdomen /CECT whole abdomen, Pus for gram stain and culture sensitivity.

Study technique:

Liver abscess patients classified into amoebic and pyogenic liver abscess, Pus for gram stain and culture sensitivity from wound, Appropriate management applied and outcome measured.

INCLUSION CRITERIA:

Any patient more than 12 years of age of diagnosed amoebic and pyogenic liver abscess.

EXCLUSION CRITERIA:

- Age less than 12 years
- Patient having severe medical comorbidity like Congestive cardiac failure, Pulmonary hypertension, Chronic kidney disease.
- Those people who left against medical advice (LAMA).

RESULTS

A total of 60 patients with liver abscess were studied and analysed. The mean age of the patients was 12. years (range: 18 to 78 years). Male to female ratio was 13.3 : 1. About two-thirds of the patients (67.5%;) were from lower socioeconomic class with regards to education, occupation, and per capita income and the rest were from the middle class families.

Pain abdomen was the most common symptom (99%;). Tender hepatomegaly was the most common per-abdominal examination finding Pleural effusion was evident in 30% () of the patients, predominantly on the right side (23%;); however, left-sided and bilateral effusions were also encountered in 3% and 4% of patients, respectively. HIV was reactive in only 2% of patients and viral markers (HBsAg and anti-HCV) were nonreactive in all patients. The laboratory profile of the patients is mentioned in. Etiological analysis of LA revealed that 69% were of amoebic origin (), 18% of pyogenic (), 4% of mixed amoebic and pyogenic process (), 7.5% of tubercular (), and 1.5% of fungal infections (). depicts a solitary LA which was drained and pus came out to be positive for AFB. Amoebic serology was positive for IgM antibodies with significant titres in 72.5% () patients. Pus culture gave positive results in 22% () of the patients, which grew predominantly Gram negative flora. Blood and urine cultures were however positive in only 1.5% and 3% of the patients, respectively. According to culture reports from that of blood and pus, change in antibiotics was done in 25% () of the patients. Solitary abscess was more of amoebic and tubercular in etiology whereas multiple abscesses were associated with pyogenic origin (). Amoebic and pyogenic liver abscesses were more frequent in the right lobe and tubercular in left lobe (). ALA patients were found to be more frequently alcoholic () and had greater weight loss (). TLA was more commonly associated with ascites.

Using multivariate regression analysis, volume of abscess was found to be directly proportional to the levels of serum alkaline phosphatase () and inversely to haemoglobin () levels of the patient. Duration of hospitalisation as a morbidity indicator was proportional to duration of fever values of ESR (), and INR (). It was inversely related to serum albumin (). Mortality rates were found higher in female patients,

patients having longer duration of fever (), icterus (), ascites (), and pleural effusion.

DISCUSSION

Liver being exposed to portal venous bacterial load regularly clears the bacterial load without problem in usual circumstances. The development of liver abscess occurs when the inoculum bacterial load exceeds the liver ability to clear it. Fever with chills and pain abdomen are most common presenting symptoms, but there is broad array of nonspecific symptoms like night sweats, malaise, anorexia, nausea and vomiting.

Krishnanand, K., & Singh Kurmi, N. (2019). Clinical study of liver abscess. Studied on the 60 cases having proven liver abscess. All data collected from these cases was compared statistically. A predesigned proforma was used to collect this information for individual case. All selected cases were studied upto discharge regarding the type of liver abscess and treatment modalities.

Amoebic liver abscesses were more common than pyogenic liver abscesses. Liver abscesses were more common in 5th decade followed by 6th decade. Liver abscesses were more common in males than females; Diabetes mellitus (35%) and Alcoholism (23.3%) were the most common predisposing factor in our study. Single abscess was a finding in 71.66% and multiple abscess in 28.33% of patients. The modern day ultrasound and other non-invasive imaging techniques had greatly revolutionized the diagnosis and management of the liver abscess. Conservative management with IV antibiotics and USG guided percutaneous aspiration of liver abscess are most frequent treatment modalities used now; with fewer complications(1).

Milek T, Porzycki P, Ciostek P. Percutaneous Treatment of Liver Abscess – A total of 32 patients were treated for liver abscess in the years. The treatment involved sonographically guided percutaneous drainage of liver abscess. Results: A total of 28 patients with a solitary abscess were successfully cured with minimally invasive percutaneous drainage. Two patients with abscesses volume >20 cm³ were treated surgically after an ineffective percutaneous drainage(2). Liver abscess: An observational study of clinical presentation and its management. Dr. Miteshkumar Trivedi, Dr. Vipul Lad, Dr. Mohammed Anis and Dr. Shiv Patel, Liver abscesses, both amoebic and pyogenic, continue to be an important cause of morbidity and mortality in tropical countries. However, different modalities of treatment of liver abscess are conservative (medical management), percutaneous needle aspiration, percutaneous catheter drainage, surgical drainage and endoscopic drainage. The aim of the study is to evaluate the clinical presentation and the different management done for liver abscess. average age, 35 years) with liver abscesses (amebic 08; pyogenic 27) underwent either percutaneous needle aspiration, percutaneous catheter drainage, or surgical intervention along with appropriate antimicrobial therapy. In patients assigned to the needle aspiration group, an 18-gauge spinal needle under local anaesthesia was used to aspirate the abscess cavity. For catheter drainage, 8- to 12 French catheters were introduced into the abscess cavity using the Seldinger technique. Patients were followed up to assess the outcome of the treatment, length of hospital stay, and development of any complications. Sonography was performed every third day during hospitalization in cases of percutaneous needle aspiration and percutaneous catheter drainage. After discharge of the patient, periodic clinical and sonographic examinations were done until total resolution of abscesses was achieved. Improvement in clinical features, liver function tests, ultrasonic evidence of decrease in the size of abscess cavity was considered as criteria for successful treatment(3). Imaging-guided percutaneous needle aspiration or catheter drainage of neonatal liver abscesses was studied by Lee SH, Tomlinson C, Temple M, Amaral J, Connolly BL.(4) A study was conducted over a period of 10 years from January 1991 to December 2000 and total of 129 cases were studied in the age group of 0-14 years. Diagnosis was made by a detailed clinical examination together with USG and CT of the abdomen. Out of 129 cases, 49 were treated with antibiotics alone, 55 cases were taken for open drainage, and 27 cases were taken for percutaneous aspiration under USG guidance. Percutaneous aspiration failed in five patients who were later taken for open drainage. Open method was found still to be the best modality of management, although percutaneous aspiration is safe and effective but needs lot of expertise. It was conducted by Bari S, Sheikh KA, Malik AA, Wani RA, Naqash SH.(5) Eighteen cases of pyogenic liver abscess admitted at JIPMER Hospital, South India, over a 6 year period were analysed to document the clinical profile and to evaluate the management of

pyogenic liver abscess among children in a study conducted by Kumar A, Srinivasan S, Sharma AK.(6) Yeuh Kg et al- National University Hospital, Singapore, Reviewed 41 cases from 1994 to 1998 27(67%) pyogenic, 6(15%) amoebic, 2(5%) tuberculosis, 6(15%) intermediate. Percutaneous aspiration of liver abscess not only help to confirm the diagnosis but also to uncover clinically unsuspected conditions like malignancy and tuberculosis which may mimic liver abscess.(7) Donovan AJ et al – Department of Surgery- Los Angeles country University of Southern California Medical center, studied about diagnosis of liver abscess (Pyogenic and Amoebic) USG is the modality of choice and will detect almost 100% of abscess and conformation of the diagnosis of amoebic liver abscess is made by indirect hemagglutination test that should be positive in almost 100% cases. Preferable technique of drainage of pyogenic abscess is with percutaneous USG/CT guided catheter.(8)Forty- six patients with pyogenic liver abscess been treated at Paul Brousse Hospital between 1966 and 1986 was studied to evaluate the prognosis of liver abscess patients by Farges O, Leese T, Bismuth H.(9). Medical management of liver abscess was studied by McCorkell SJ, Niles NL.(10) In the study conducted by Miedema BW, DineenP, pyogenic liver abscesses I Mortality in the surgically treated patients was 26% (17/65), while those treated non- surgically had a fatality rate of 95% (39/41). Multiple abscess treated surgically had a surprisingly low mortality of 29% (5/17).(11) A study of 501 patients with 540 intra-abdominal abscesses seen on the surgical services of the University of Clinical Medical center during the past twelve years was undertaken to define the incidence by type and anatomic location, the sources, the effectiveness of diagnosis and treatment, the extended periods of required hospitalization, and the causes of mortality by Altemeier WA, Schowengerdt CG, Whiteley DH.(12).

CONCLUSIONS

Young alcoholic male from lower socioeconomic group with amoebic liver abscess presenting as solitary right lobe abscess was the most common pattern in our series. Liver abscess was uncommon in female patients. Apart from amoebic and pyogenic, tubercular liver abscesses were not so uncommon etiologically. Though average age of patients was in forties, increased incidence of mortality was noted in patients in the seventh decade. Cough as a symptom points to associated significant pleural effusion. Presence of ascites should raise suspicion of TLA or associated CLD. Mortality was high in patients undergoing surgical intervention for rupture. Overall mortality was low probably due to use of minimally invasive drainage techniques and aetiology specific antimicrobials in all patients.

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