

Analysis and Comparative Study of Catheter Drainage or Needle Aspiration in Management of Liver Abscess

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DOI: [10.36347/sjams.2022.v10i01.012](https://doi.org/10.36347/sjams.2022.v10i01.012)

| Received: 11.12.2021 | Accepted: 10.01.2022 | Published: 19.01.2022

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Abstract

Original Research Article

Background: Liver abscess is common cause of illness in developing nations. Even with the advance investigation like ultrasonography, the diagnosis is still delayed due to the nonconclusive manifestations of disease and for that reason the tentative diagnosis is important. **Methods:** 60 patients were selected from L.G. HOSPITAL, Ahmedabad. Study was conducted during the period from June 2020 to October 2021. **Results:** Percutaneous catheter drainage is having less compliance compared to needle aspiration. Repeated procedures needed to improve the success of percutaneous needle aspiration 56.66% of the subjects presented with complications in USG guided needle aspiration group whereas only 26.66% of people presented with complications in USG guided pigtail catheter drainage group. The most common complication in needle aspiration group was re-accumulation leading to repeated aspiration 40%. The of the most common complication in catheter drainage group is blockage of drain due to thick pus 10%. **Conclusions:** USG guided catheter drainage and USG guided needle aspiration are equally efficient in the management of significant sized liver abscesses. **Keywords:** Amoebic Liver Abscess; pigtail catheter; liver; Ultrasonography; Conservative Management; Post-procedure complications; Morbidity.

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INTRODUCTION

Liver abscess as pyogenic and amoebic are one of the important causes of morbidity and mortality in developing countries [1].

Even with the advent of good diagnostic investigation like USG, the diagnosis is still delayed because of the nonspecific manifestations of illness and therefore the suspicion of the diagnosis is important. During the last few years, the advances of newer radiological techniques namely computed tomography (CT) and ultrasonography (USG) has not only prescribed tools for precise localization of these abscess. Percutaneous therapeutic procedures have been surpassing compared with open surgical drainage (SD) [2]. This study aims to compare the therapeutic efficacy and safety of 'Percutaneous continuous catheter drainage' against to 'Percutaneous needle aspiration' in management for liver abscesses.

METHODS

Source of data

In this comparative research, 60 patients were selected from L.G. HOSPITAL, Ahmedabad. Study was performed during the period from June 2020 to October 2021.

Methods of collection of data

The study was a prospective study of diagnosed cases of liver abscess from June 2010 to October 2021. A total 60 patients were added in the study and patients were randomly divided into 2 groups. Group A: Ultrasonography guided percutaneous needle aspiration. Group B: Ultrasonography guided indwelling catheter drainage group. Groups were examined to find aetiopathogenesis and better therapy technique. The patients included in the study were diagnosed cases of liver abscess; admitted through surgical outdoor patient department or emergency

Citation: Dr. Aakash G. Rathod, Dr. Sanket Katara, Dr. Asim Mansuri, Dr. Kuldeep Vanvi, Dr. Aimanhusen M. Payala, Dr. Aarsh Panchal, Dr. Jaykumar Patel. Analysis and Comparative Study of Catheter Drainage or Needle Aspiration in Management of Liver Abscess. Sch J App Med Sci, 2022 Jan 10(1): 79-81.

department in the indoor wards of L.G Hospital from June 2018 to October 2020. A total of 60 patients with liver abscess were signed up and randomly divided into 2 groups. All patients had ultrasound done at the time of admission. All patients were given Inj. Ceftriaxone 1gm IV 12 hourly, Inj. Metronidazole 400mg IV 8 hourly and vit K. Patients randomised into two groups: Group A (total patients 30) treated with anti-amoebic drugs with ultrasonography guided needle aspiration on the day of admission. Group B (total 30 patients) treated with anti-amoebic drugs with percutaneous indwelling catheter insertion. Patients were examined daily for body temperature, pain and tenderness, laboratory and radiological workup was done as and when required. Cure was defined as improvement clinically with recovery from fever, and local signs, symptoms, decrease in WHITE BLOOD CELL count and follow-up USG showed reduction and no evidence of relapses.

RESULTS

The study was done at L.G hospital, Ahmedabad during period from July 2020 to October 2021. 60 cases of liver abscesses were studied and they were randomised into two groups as Group A (total patients 20) treated with anti-amoebic drugs plus needle aspiration and Group B (total patients 10) treated with anti-amoebic Drugs with percutaneous catheter insertion. All patients were given anti-amoebic drugs and observed for 48 hrs. USG was done on Day 5 & 15. Other findings included in the study are summarised as follows: By day 15, USG showed decreased size of abscess cavity in all patients but reduction in cavity size was more (92%) in group B as compared to (75%) in group A. 60 cases of liver abscess were undertaken in the present study. A detailed evaluation and analysis of the comparison between ultrasound guided needle aspiration and usg guided catheter drainage was undertaken keeping in mind the aims and objectives in this study. The following conclusions were derived. Both, procedures are very safe with minimal complications if performed carefully.

Present study has been taken up with the aim to compare advantages and disadvantages of USG guided percutaneous needle aspiration to USG guided pigtail catheter drainage. Pigtail catheter drainage is better compared to percutaneous needle aspiration. Frequent aspiration needed to improve the success of percutaneous needle aspiration. Average duration of stay in catheter drainage group (06 days) was less compared to needle aspiration group (11 days). USG guided pigtail catheter drainage and USG guided percutaneous needle aspiration are equally effective in the management of large liver abscesses. Percutaneous catheter drainage better in terms of Quicker compared to repeated needle aspiration as Less duration of hospital stay, Less complications, complete resolution of abscess cavity.

DISCUSSION

Total 60 patients of liver abscess were involved in the study. Patients randomly separated into two groups. group A (total no patients 30) treated with amoebicidal drugs plus ultrasound guided needle aspiration & group B (total no patients 30) treated with amoebicidal drugs with pigtail catheter insertion [3].

Follow up after starting of therapy let drop to normal value of body temperature in all patients within 07 days in both groups abdominal pain resolved in 85% of patients within 5 days Tenderness of liver resolved in 90% patients in both groups. All patients were relieved from pain, fever and tenderness on day 8. Laboratory parameters improved in all patients on day 10, As day 15 onwards, liver abscess cavity size decreased in usg finding but, residual abscess size was reduced better in group B as compared to group A. In Group A cases having liver abscess size of 5 to 10cm reduced after procedure up to 75-90% in size by 10days compared to Group B having reduced after procedure up to 50-95% in size by 10days of follow-up ultrasound.

In our study males are dominantly affected compared to female with a average age 31 to 40 years old [4]. Most common complaint of patients are as Abdominal pain>fever>anorexia>weight loss>diarrhoea>Jaundice [5]. RHC tenderness was the most consistent sign in all 55 cases (91.66%). Fever was present in 75% cases, hepatomegaly in 23% cases, icterus in 16.66%, pallor in 13.33%, pedal oedema in 30% cases. Anaemia was found in 30% cases, Leucocytosis present in 84% cases, alteration in Alkaline phosphatase in 55%, altered Prothrombin time in 50%, hyperbilirubinemia in 30% & hypoalbuminemia in 60% cases. Abnormalities in chest Xray was found as raised dome of diaphragm>right sided pleural effusion>right sided pneumonitis [6]. In ultrasound examination, liver abscess found predominantly involving right lobe of liver compared to left lobe of liver. Complications in management protocol of liver abscess are less in indwelling pigtail catheter drainage group as compared to ultrasonography guided needle aspiration group [7].

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