



LIVER ABSCESS: ROLE OF RADIOLOGIST IN DIAGNOSIS AND MANAGEMENT

Radiodiagnosis

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ABSTRACT

Objective- To determine the role of interventional radiologist from diagnosis to USG guided percutaneous catheter drainage of unruptured and ruptured hepatic abscesses.

Method- The study was performed on 20 patients who came to emergency department with right upper quadrant pain with deranged enzyme profiles. The patients were identified and prepared for USG guided percutaneous catheter drainage of abscess. The follow up of all the patients were done and the progression and regression was recorded.

Results- The role of radiologist is crucial from appropriate diagnosis of the lesion to the management in the form of percutaneous needle aspiration or catheter drainage. Both are preferred minimally invasive technique, however our institution prefers PCD due to few advantages.

KEYWORDS

Liver abscess, PCD, Pigtail, USG, Interventional radiology

INTRODUCTION-

Liver abscess is caused by parasitic or bacterial infection and is fairly common in alcoholic and few endemic places in developing countries. It presents with right upper quadrant pain and fever. On examination it usually presents as tender hepatomegaly with raised counts and deranged LFT levels. The detection and appropriate management can definitely change the associated morbidity and mortality as results of complications. In the past era, the management was entirely surgical but now the treatment is shifted to i.v broad spectrum antibiotics and image guided percutaneous drainage (1-3). It is preferred over other old methods due to its minimally invasive technique and better patient compliance.

The efficacy of needle aspiration and PCD is still controversial. However, continuous PCD is widely accepted as treatment of choice for liver abscess (4-5).

METHODS-

1. Sample Size - 20

2. Method – The patients who were admitted in the hospital since July 2019 to July 2020 were enrolled for the study.

The patients who presented in emergency with upper right quadrant pain and were suspects for liver abscess were prescribed for ultrasound as initial modality of investigation.

The patients who showed the characteristic features of abscess – well defined echogenic collection in segment of liver with peripheral vascularity were grouped under liquefied or non liquefied abscesses. The patients with solitary, large, liquefied abscess were included as candidates for PCD. The patients were admitted and all the preliminary investigation were advised like CBC, PT-INR and Triple- H. The patient was kept NBM for 6-8 hours before procedure and consent was obtained.

The procedure was performed under local anesthesia with patient in supine position. The procedure was performed a trocar method with 8-F multiple- side hole pigtail (Boston Scientific) introduced into the abscess cavity. The abscess was localized and entry site was selected and accessed through optimal route. The care was taken to traverse minimum liver tissue possible. The care was taken to avoid injury to bowel and pleura. Catheter was inserted at the dependent region and the pus was aspirated till no more pus was removed. After drainage of maximum pus the catheter was secured with sutures for continuous external drainage. The residual abscess was drained periodically by repositioning the tip of catheter. The discharge is sent for microbiological evaluation.

3. Follow- up – All the patients were kept of i.v antibiotics and the

daily catheter output was recorded. Follow up sonography and X-Ray was performed to rule out any post procedure complications. The follow up sonography was performed every third day with recording of change in size of abscess. After the discharge, the patient is usually followed up in outpatient department and scanned every weekly initially and 3-6 monthly after that.

RESULTS-

The study was conducted on 20 patients of liver abscess. 2 patients were excluded due to pretreatment rupture of abscess. Patient was kept on i.v antibiotics before the day of procedure. All interventions were performed under strict aseptic precautions. Out of 20 patients 8 were female and rest male. The common age group was observed to be 40-55 years. The commonest symptom was fever. Almost 80% had tender hepatomegaly. Solitary abscesses were commoner in comparison to multiple abscesses. Most commonly the right lobe of liver was involved. The most common complication observed was hematoma formation which resolved within a week. The amebic abscess with classical anchovy sauce appearance was the most common type observed. The duration of stay was relatively shorter in comparison to other modalities of management. The duration of i.v antibiotics is significantly shorter with PCD. 18 out of 20 patients were successfully treated with pigtail abscess drainage.



Figure 1 – USG Showing Well Defined Heteroechoic Predominantly Hypoechoic Collection Noted In Segment VII Of Liver Suggestive Of Abscess.

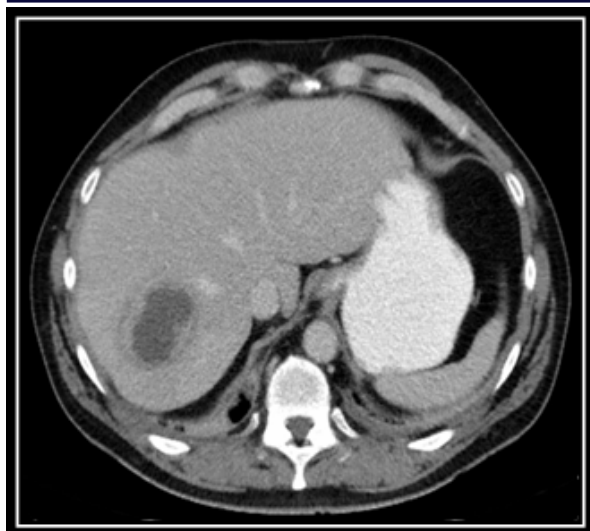


Figure 2- Axial Section Of CT Showing Well Defined Hypodense Lesion In The Segment VII Of Liver With Peripheral Rim Enhancement In Portal Venous Phase.

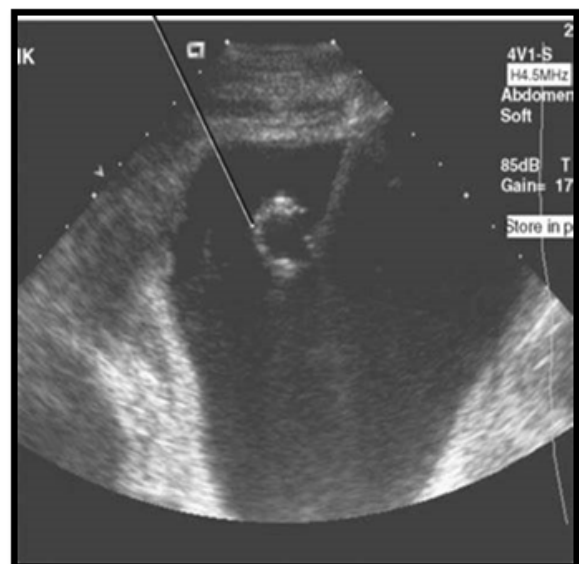


Figure 3- USG Showing Pigtail Catheter Insertion In The Liquefied Abscess.



Figure 4- Follow Up CT Scan Showing The Tip Of Catheter In The Abscess.

DISCUSSION

The recent trend of management for liver abscess is shifted from surgical to non surgical methods. Percutaneous needle aspiration and catheter drainage are the two non surgical therapeutic options available. (6-7)

Bright in 1936 did the first review of liver abscess and the liver abscess is fairly common problem in developing countries which is often overlooked.

The patients who came with the liver abscess had associated co morbidities. The most common co-morbidity is found out to be gall bladder or common bile duct stones. The serum bilirubin levels were raised in almost 55% of the patients. (8,9)

There are three types of abscesses common in liver – amebic, pyogenic and fungal. Our study showed maximum cases of amebic abscesses and no case of fungal abscess. (10,11)

The average duration of i.v antibiotics required is shown in various studies.

Our study showed the percutaneous catheter drainage of abscess is having excellent results and is commonly recommended in tertiary care centres.

CONCLUSION

Our study concluded that the role of radiologist begins from the appropriate diagnosis of the liver abscess and promptly planning the imaging guided intervention which can prevent complications associated with the impending rupture of abscess in the form of peritonitis. Further the percutaneous catheter drainage in the form of pigtail is the preferred management as it reduces the hospital stay, the duration of antibiotics and is minimally invasive. All these factors can help in patient management by significantly reducing the morbidity and mortality.

CONFLICT OF INTEREST - None

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