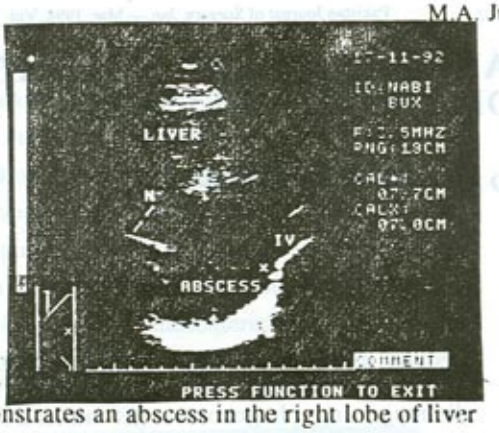

Fig. 4 Demonstrates an abscess in the right lobe of liver posteriorly near inferior vena cava with needle within the cavity. (IV - Inferior vena cava, N = needle).

Discussion

Diagnostic ultrasound has assumed an important role in aspiration and biopsy techniques since the first publication on the subject in American literature in 1972[15].

In our 300 study cases needle was inserted within the cavity in all cases in first attempt in majority of cases (188 patients) aspiration was carried out once and repeat scans after period of 1-2 weeks showed no residual cavity.

No major complication was recorded in any of the cases except that few patients did complain of pain at the site of insertion of needle.

The study suggested that ultrasound guided aspiration of liver abscess is safe, easier, economical and much less distressful for patients as compared to surgery. More over complications of open surgery and anesthesia are avoided.

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The patient was positioned so that as few structures as possible lie in the path of needle, it was done either by changing the angulation of patient or needle[8]. Needle can be repositioned or changed during insertion as required. Patient can be placed in suitable position that is supine, prone, decubitus, oblique etc to facilitate the proper place for puncture[9-13]. The patient was asked to hold his breath while insertion of needle in cases of small abscesses of upto 3.5 cms size in diameter[14].

291 patients required no preparation while in remaining 09 patients sedation was given because of patients being below 07 years of age.

The area of interest was localized and marked, after sterilization the local anaesthetic was injected subcutaneously at the site already marked. The needle was then inserted and advanced along the predetermined path way until it was seen within the cavity. 16G spinal needle was used in majority of patients while in few 18G spinal needle was used for drainage purposes.

Results

Needle was inserted into the abscess cavity in all cases in first attempt and pus was aspirated without any serious complication. Few patients however did complain of pain at the site of insertion of needle.

In 188 patients aspiration was carried out once and all fluid was aspirated. In 68 patients aspiration was carried out twice and in remaining 44 patients aspiration was carried out thrice or more from same cavity the reason probably being thick pus causing blockage of the needle.

All abscesses were cured without surgery.

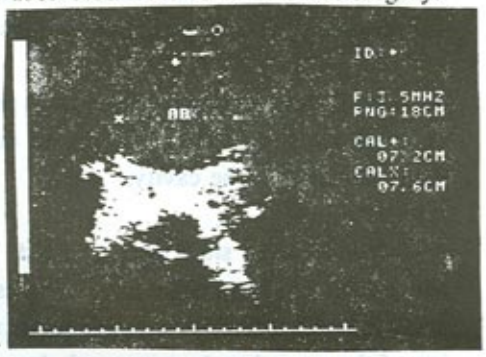

Fig. 1a
Demonstrates abscess in the right lobe of liver. (AB=Abscess).

Fig. 2
Demonstrates an abscess adjacent to the gall bladder wall with needle within the abscess cavity. (Li=Liver, AB=Abscess, N=needle, P.V=Portal vein and GB-gall bladder).

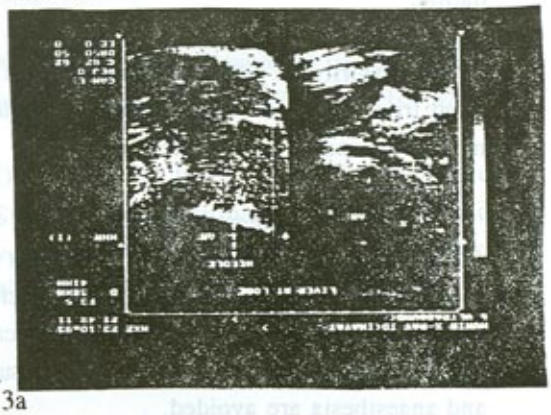

Fig. 3a
Picture on the left demonstrates an abscess in the right lobe of liver anterior to the right portal vein and picture on the right demonstrates needle within the caivty (AB'= Abscess, P.V = Portal vein).

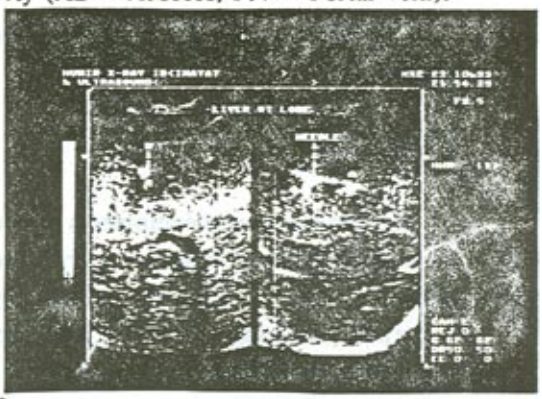

Fig. 3b
Demonstrates abscess cavity with needle in it during aspiration. Note considerable decrease in size of cavity. (A = Abscess, N = Needle).

Pakistan Journal of Surgery, Jan.— Mar. 1994, Vol. 10, 5—7

ULTRASOUND GUIDED ASPIRATION OF LIVER ABSCESS

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Abstract

Ultrasound guided aspiration was done on 300 patients diagnosed to be having liver abscess during period of five years i.e. from December 1987 to December 1992. Needle was successfully inserted in all 300 cases in first attempt. No preparation was required in 291 patients while in remaining 09 patients being children of below 07 years of age procedure was carried out after sedation.

In majority of patients entire pus was aspirated from cavity in single aspiration, while few needed second or third aspirations.

The results suggested that the use of ultrasound guided aspiration of liver abscess is much easier, safer, economical and causes much less distress to patient as compared to surgical removal and more over side effects of open surgery and anaesthesia are avoided.

All abscesses in this study were cured without surgery.

Key Words: Aspiration, Liver abscess and Ultrasound.

Introduction

Modern ultrasound equipments provide clear visualization of small masses in liver. These equipments permit the operator to continuously monitor the position during its insertion. With experience the needle can be inserted into area of interest easily and reliably[1-3].

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High success rates have been reported for percutaneous biopsy of abdominal tumours, opacification of bile ducts, pancreatic duct, portal vein, percutaneous drainage of obstructed bile, abscess or cyst performed with improved sonographic transducers[4-7].

Aim of this study was to assess the ability of success of ultrasound guided aspiration of pus from liver abscess and see if any complications occurred.

Materials and Methods

The study was conducted on 300 patients diagnosed to be suffering from liver abscess referred to department of Diagnostic Radiology and Imaging Liaquat Medical College Hospital Jamshoro/ Hyderabad for ultrasound guided aspiration of pus from December 1987 to December 1992.

There were 265 males 35 females with age in between 05 years to 78 years.

The ultrasound examination was performed using latest high resolution real time ultrasound equipments (Toshiba 38-B and Aloka SSD-248) using 3.5 Mhz sector and linear transducers and 4.0 Mhz and 5.0 Mhz linear array transducers.

Initial ultrasound examination was performed on all patients to determine the exact depth, position and size of the cavity.

Normally two sites were selected. Through one needle was inserted into the abscess cavity and other site was used for continuous monitoring of the procedure by means of ultrasound.