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PERCUTANEOUS CATHETER DRAINAGE UNDER ULTRASOUND GUIDE FOR PYOGENIC LIVER ABSCESS LARGER THAN 05CM: EXPERIENCE AT CHANDKA MEDICAL COLLEGE HOSPITAL LARKANA

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ABSTRACT:

OBJECTIVE: *To determine the efficacy of the ultrasound guided percutaneous catheter drainage of pyogenic liver abscess more than 5cm as a first line treatment.*
STUDY DESIGN: *Prospective analytic.*
PLACE AND DURATION OF STUDY: *The study was conducted in the Department of Surgery Unit II, over the period of 2 ½ years (i.e. from March 2006 to August 2008).*
MATERIALS AND METHODS: *Over the period of 2 ½ years 40 patients with a pyogenic liver abscess >5cm size were studied. Those patients who either failed to respond to medical treatment or in those patients where percutaneous aspiration did not work, were included in this study. The patients with smaller abscess and those who responded to medical therapy were excluded. The response to the treatment was assessed by decrease or deference of fever and shrinkage of abscess size on serial ultrasound scan.*
RESULTS: *Out of 40 patients 28 (70%) were males and 12 (30%) were females. Mean age was 33.7 years. All the 40 patients were cured with ultrasound guided catheter drainage.*
CONCLUSION: *The percutaneous catheter drainage under ultrasound guide is the effective treatment in terms of success, hospital stay, and morbidity and mortality rates. Percutaneous catheter drainage should be considered as first line treatment in all the pyogenic liver abscesses >5cm.*

KEY WORDS: Pyogenic liver abscess: ultrasound guided catheter drainage.

INTRODUCTION:

Pyogenic liver abscess has an increased incidence in the elderly, diabetic and the immunosuppresed patients, who usually present with anorexia, fever and malaise accompanied by right upper quadrant discomfort [1-3]

Historically morbidity and mortality rate associate with the treatment of pyogenic liver abscess was high[4-6.] This has improved significantly with the introduction of ultrasound (US) and computed tomography (CT). [7]

When detected early, effective treatment of small abscess involve the use of diagnostic aspiration and appropriate antibiotics. [8]

Pyogenic liver abscess >05cm in size require prompt drainage for resolution of sepsis. There are alternative methods for drainage of pus from a liver abscess. Percutaneous therapeutic procedures have been performed increasingly. These are less invasive and are associated with less risk.

Open surgical drainage procedure has been reserved for those patients who have failed to respond on percutaneous procedures or have burst liver abscess. Surgical drainage procedures are associated with higher morbidity and mortality rates often used as a salvage procedure and in large inferior abscess especially multi-loculated or containing thick viscid pus. This is associated with high complication rates, prolong hospital stay and increase cost of treatment. [9, 17]

PATIENTS AND METHOD:

The study was carried out for patients who under went percutaneous catheter drainage for the treatment of pyogenic liver abscess >5cm, over period of 2 ½ years (from March 2006 till 31st August 2008). Those patients were included in study who had an acute pyogenic liver abscess >5cm, confirmed on ultrasound (US). This also included the patients who had failed to respond to medical therapy and percutaneous aspiration. Patients with smaller abscess, those responding to medical treatment, ruptured liver abscess at initial presentation or those where a concomitant pathology required urgent surgical intervention were excluded. 8 to 10 French catheters were introduced into the abscess cavity using the seldinger technique. This idea was taken from percutaneous nephrostomy usually used by urologists to drain the obstructed kidneys; hence during initial period urologist was called for help during procedure. The pus was sent for culture and sensitivity. Empirical antibiotic therapy was started till the availability of culture and sensitivity report.

Patients were followed up to assess the out come of the percutaneous treatment, length of hospital stay, and development of any complication. The success of the procedure was measured by deference of fever, progressive reduction in the size of the abscess cavity. US was performed every third day during hospitalization and before removal of catheter. At weekly follow up in the outdoor clinics, a fresh ultrasound was done to assess the adequacy of treatment. The follow up continued till complete resolution of abscess cavity.

RESULT:

A total 40 patients of pyogenic liver abscess were treated with percutaneous catheter drainage under ultrasound guide. There were 28 (70%) males and 12 (30%) females with mean age 33.7 years, ranging from 12-69 years. Majority of patients belonged to Sindh (Larkana, Shahdadkot, Jacobabad, Khairpur districts) and 3 patients from Balouchistan.

Percutaneous catheter drainage under ultrasound guide was curative in all 40 patients and average hospital stay was 5 days (2-7days). This study klebsilla (pneumonia) was found in 18 patients (45%), Escherichia coli 10 patients (25%), Streptococcus 07 patients (17.5%), mixed flora was seen in 05 patients (12.5%) see table-I. There was no major complication related to the procedure, however minor complications like blockage of catheter was seen in one patient (2.5%) ,catheter dislodged in two patients (5%) and they required reinsertion and sepsis seen in one patient (2.5%) see table-II.

Table - I

Microbiological Assessment

1	Klebsilla (Pneumonia)	18	45%
2	Escherichia coli	10	25%
3	Streptococcus	07	17.5%
4	Mixed	05	12.5

Table -II

Complications

Complications	No of Patients	%
Blockage of catheter	1	2.5%
Dislodgement	2	5%
Sepsis	1	2.5%

DISCUSSION:

The Introduction of the percutaneous approach to liver abscess was initially described by Mc Fadzean et al [10,] from Hong Kong 1953.

The recent literature suggests that percutaneous drainage of liver abscess is a safe and effective method of drainage of pyogenic liver abscess. [11, 12, 13]

Percutaneous ultrasound guided catheterization of pyogenic liver abscess is the minimal invasive approach and is performed under local anaesthesia.

Percutaneous catheter drainage is not suitable in all patients with liver abscess. Small (less than 5cm) liver abscess, ruptured liver abscess, difficult approach to the abscess, co – existing disease requiring open surgery [14,15,16] are some limitations. These limitations were also observed in our study and only the abscesses >5 cm which were amenable to percutaneous drainage were included.

In this study we have demonstrated that the percutaneous approach can provide a better clinical out come. This was significant in terms of success of treatment, hospital stay, the resolution of sepsis. Regarding the complications, no major complication was noted during the procedure or after procedure. However minor catheter related complications like catheter dislodgement (02), blockages (01), and sepsis 01 were noted. This is consistent with the available literature [16].

The studies have reported that the mortality may be up-to 15% to 25% in open surgical procedure and 2.8 % in percutaneous drainage procedure.[7,18,19& 20] However there was no mortality in our series.

CONCLUSION:

The percutaneous catheter drainage can be used as the first line treatment in managing pyogenic liver absceees >5cm size. It is an effective and comparatively safe alternate of the open surgical procedure. It results in very low morbidity and mortality if used early in the treatment of such abscesses.

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