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Original Research Article

Outcome of rupture liver abscess in tertiary care center

Anubhav Goel*, Sandeep Gupta, Mayank Agarwal

Department of Surgery, SN Medical College, Agra, Uttar Pradesh, India

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***Correspondence:**
Dr. Anubhav Goel,
E-mail: dranubhav1234@yahoo.com

ABSTRACT

Background: Liver abscess is common clinical condition encountered in outpatient and emergency setting however; rupture of it can lead to higher morbidity and mortality of patients. Despite different and easily accessible modalities are available to diagnose the condition early, still ruptured liver abscess presents with a common cause of acute abdomen in surgical emergency.
Methods: This was a retrospective study carried in Sarojini Naidu Medical College, Agra, between 2019 and 2021. All patients with ruptured liver abscess (ultrasound diagnosed) were included in this study, and those patients having other causes of peritonitis were excluded.
Results: Out of the fourty patients assessed, all patients were male (100%). The most affected age group was 31-40 years (50%) followed by 41-50 years (30%). Right hypochondrium pain was the most common presenting complaint. 80% have history of chronic alcohol intake. Twenty patients (50%) had presented with signs of toxemia. Only right lobe of the liver was affected the most in 28 patients (70%). Escherichia coli was the most common organism isolated in our study in 21patients (52.5%). A total of 16 patients (40%) had diabetes in our study and total of 7 (17.5%) patients had mortality in our study.
Conclusions: Ruptured liver abscess can be diagnosed in emergency setting and is preventable if early intervention is done. It carries high morbidity and mortality so early diagnosis and prompt treatment can reduce the risk of it.

Keywords: Liver abscess, Rupture, Toxemia, Alcohol intake

INTRODUCTION

Liver abscess is an inflammatory space-occupying lesion of the liver caused by infectious agents. Amoebic liver abscess (ALA) and pyogenic liver abscess (PLA) are its two predominant causes. Other causes of liver abscess are fungi, mycobacteria, and other atypical organisms. ALA is the commonest cause of liver abscess in India and it is seen in more than 60% of cases.[1] Most common mode of transmission is feco-oral route and most common organism is *E. coli*. Appendicitis once used to be the main reason to develop a liver abscess but has decreased significantly as better diagnosis and management is available. Nowadays, biliary tract disease (biliary stone, strictures, malignancy, and congenital anomalies) are the major causes of pyogenic liver abscesses. About half of the bacterial cases are developed by cholangitis. Less often, causes are hepatic artery bacteremia, portal vein bacteremia, diverticulitis, cholecystitis, or penetrating trauma.[2] In earlier days open surgery was the only choice. Laparotomy used to be the gold standard of treatment and carried a mortality rate of 10 to 47%.[3] Laparoscopic lavage has been tried successfully in patients with intra-peritoneal rupture of liver abscesses, the technique is well established and has advantage of avoiding the additional burden of laparotomy.[4] But when patient is too sick, the anesthetic and operative load itself may increase mortality. In cases of free peritoneal rupture, removal of free peritoneal pus and lavage can be helpful and repeated

lavage can be done via the wide bore drains. With invent of effective antimicrobials, newer methods of radio diagnosis like USG and CECT and interventional radiological techniques like USG, CT guided aspiration, percutaneous catheter insertion, mortality associated with this condition has significantly decreased. Surgical intervention is rarely needed in cases of contained liver abscesses as percutaneous catheter drainage with antibiotics and metronidazole is sufficient to achieve cure.[5] Despite different and easily accessible modalities are available to diagnose the condition early, still ruptured liver abscess presents with a common cause of acute abdomen in surgical emergency. In developing countries, ruptured liver abscess is a common cause of morbidity and mortality.

Aims and objectives

Aim and objective of current investigation was to analyze the various epidemiological factors in patients with ruptured liver abscess for better management and insight into the prognosis for such patients.

METHODS

This study was conducted in department of surgery, Sarojini Naidu medical college, Agra, between 2019 and 2021. It was a retrospective study carried out in the department. All patients with ruptured liver abscess (ultrasound/ computerized tomography diagnosed) were included in this study, and those patients having other causes of peritonitis (perforation, tubercular etc.), non-ruptured liver abscess were excluded. All the patients were kept nil per oral with Foley catheter for urine output measurement and checking hydration. They were administered IV antibiotics (as per hospital protocol), symptomatic and supportive treatment. Blood investigations were evaluated for complete haemogram, total leukocyte counts, liver function tests, renal function and coagulation profile. Patients with deranged coagulation profiles were given fresh frozen plasma. A preformed protocol for management was followed for all the patients, and various parameters contributing to the illness and its prognosis were evaluated and assessed using SSPS software.

RESULTS

There was total of the forty patients which were diagnosed as ruptured liver abscess. In our study all patients were male (100%). The most affected age group was 31-40 years (50%) followed by 41-50 years (30%). Right hypochondrium pain was the most common presenting complaint. Right side present was present in 28 patients and left side was in 7 patient and in 5 patients having both right and left abscess. Most common history present in patients was of chronic alcohol intake (80%). Most of the patients presented with complaints of right hypochondrial pain/tenderness in 40 patients (100%). 14 patients (35%) complained of nausea and vomiting, 20 patients (50%) had presented with complaints of anorexia and loss of appetite, and 31 patients (77.5%) had presented with high fever along with chills and rigors. 10 patients (25%) had guarding/rigidity. Moreover, 13 patients (32.5%) had signs of severe toxemia on presentation. *E coli* was the most common organism isolated in our study in 21patients (52.5%). A total of 16 patients (40%) had diabetes in our study and total of 7 (17.5%) patients had mortality in our study.

Table 1: Sex based distribution.

Gender	N (%)
Male	40 (100)
Female	0

Table 2: Age based distribution.

Age (years)	N	%
0-10	0	0
11-20	2	5
21-30	4	10
31-40	20	50
41-50	12	30
51-60	2	5

Table 3: Site based distribution.

Site	N	%
Right	28	70
Left	7	17.5
Right and left (both)	5	12.5

Table 4: Symptom based distribution.

Sign/symptoms	N (%)
Right hypochondrial pain/tenderness	40 (100)
Nausea and vomiting	14 (35)
Anorexia and loss of appetite	20 (50)
High fever	31 (77.5)
Guarding/rigidity	10 (25)
Toxemia	13 (32.5)

DISCUSSION

Pus anywhere in the body needs drainage. Sepsis in the cases of ruptured liver abscess is due to the inflammation and pus in the peritoneal cavity. Management of ruptured liver abscess includes placement of catheters, laparoscopic drainage, and open surgical methods along with appropriate antibiotics and supportive treatment. In our study there was male predominance affecting with ruptured liver abscess with 40 patients (100%), similar results were shown by Tiwari.[6] Pang et al in their study concluded the majority of patients affected were in age group of 50-65 years.[7] However, our study suggested the majority of patients affected in age group of 31-40 years (50%). In our study, 70% patients had abscess confined to the right lobe only, and similar results were shown by

Sharma et al in his study concluded the same result with high propensity for right lobe.[8] Common laboratory abnormalities include leukocytosis, hypoalbuminemia, prolonged prothrombin time, and elevated inflammatory markers. An elevated ALP level is the most commonly observed laboratory abnormality, occurring in up to 90% of patients.[9] Liver abscess are common in the setting of a comorbid illness such as diabetes mellitus (60.9-68% of cases), in current study it was 40%.[10] The mortality in cases of non-ruptured liver abscess is reported to range from 7.1% to 15.5%, with older age and the presence of biliary disease being adverse prognostic factors. Ruptured liver abscess has a reported mortality of 43.5%.[11] In our study mortality was 17.5%. Limitation of current study was, as the sample size is small more research is needed to draw the conclusion.

CONCLUSION

Liver abscess (ruptured) is a surgical challenge which needs to be addressed in early stages to reduce the mortality. Most common affected age group falls between 30 and 60 years of age with male predominance being affected. Alcoholics and patients with diabetes and immunosuppression are at high risk for developing liver abscess. Right hypochondrial pain with or without generalized abdominal pain/ tenderness along with fever and chills/rigor forms main presenting features. Ruptured liver abscess can be diagnosed in emergency setting and is preventable if early intervention is done. It carries high morbidity and mortality so early diagnosis and prompt treatment can reduce the risk of it.

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REFERENCES

1. Jindal A, Pandey A, Sharma MK, et al. Management practices and predictors of outcome of liver abscess in adults: a series of 1630 patients from a liver unit. J Clin Exp Hepatol. 2021;11:312-20.
2. Lardière-Deguelte S, Ragot E, Amroun K, Piardi T, Dokmak S, Bruno O, et al. Hepatic abscess: Diagnosis and management. J Visc Surg. 2015;152(4):231-43.
3. Gerzof SG, Johnson WC, Robbins AH, Nabseth DC. Intrahepaticpyogenic abscesses: treatment by percutaneous drainage. Am J Surg. 1985;149:487-94.
4. Desai N, Savain C, Soni D. Management of ruptured liver abscess: a study of 54 cases. Int J Sci Res. 2013; 4(1):6-12.
5. Abusedera MA, El-Badryba AM. Percutaneous treatment of large pyogenic liver abscess. Egypt J Radiol Nuclear Med. 2014;45:109-15.
6. Tiwari D, Jatav OP, Jain M, Kumar S. Study of clinical and etiopathological role of liver abscess. J Evid Based Med Health. 2015;2:6705-12.
7. Pang TC, Fung T, Samra J, Hugh TJ, Smith RC. Pyogenic liver abscess: An audit of 10years'experience. World J Gastroenterol. 2011;17: 1622-30.
8. Sharma MP, Dasarathy S, Sushma S, Verma N. Variants of amoebic liver abscess. Arch Med Res. 1997;28:5272-3.
9. Longworth S, Han J. Pyogenic liver abscess. Clin Liver Dis. 2015;6:51-4.
10. Choi HY, Cheon GJ, Kim YD, Han KH, Kim KS, Nah BK. Comparison of clinical characteristics between cryptogenic and biliary pyogenic liver abscess. Korean J Gastroenterol. 2007;9:238-44.
11. Chou FF, Sheen-Chen SM, Lee TY. Rupture of pyogenic liver abscess. Am J Gastroenterol. 1995;90: 767-70.

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