

Original Article

Mode of Presentation of Liver Cirrhosis: A Study in a Tertiary Level Hospital

MI Hossain¹, MA Islam², MM Bodiuzzaman³, MSI Talukder⁴, MMSU Islam⁵, A Raha⁶

Abstract:

Liver cirrhosis is an important cause of death and disability globally. This cross-sectional study was carried out in Faridpur Medical College Hospital from November 2018 to April 2019 to see the patterns of clinical presentations and associated factors among admitted liver cirrhosis patients. A total of 89 patients were included. Data were collected by detailed history from patients or their relatives followed by thorough physical examination as well as diagnostic evaluation; then those were checked, verified for consistency and edited for result. Among total respondents, the majority were male (69.7%) with a male to female ratio of 1:0.44. Age of patients ranged between 22-106 years with mean age of 52.33 year. The patients predominantly presented with ascites (49.4%), gastrointestinal bleeding (27%), peripheral edema (24.7%), and encephalopathy (21.3%). The in-hospital case fatality rate was 11.2% and the patients presented with decreased urinary output, peripheral edema and encephalopathy had statistically significant death rate. The results of the study highlighted that the patients with liver cirrhosis mostly present with features of decompensation and there is a statistically significant relation with some of these clinical presentations with in-hospital mortality.

Key words: Cirrhosis, Mode of presentation.

Introduction:

Liver cirrhosis represents the end-stage of many chronic liver diseases and accounts for more than one million deaths each year worldwide¹. It is a leading cause of death in Asia. In the USA, cirrhosis ranks as the tenth most common cause of death². The worldwide prevalence of cirrhosis is unknown; however, in the United States, it has been estimated to be between 0.15% and 0.27%³.

Cirrhosis refers to a progressive, diffuse, fibrosing, nodular condition that disrupts the entire normal

architecture of the liver⁴. The common causes of cirrhosis worldwide are alcohol abuse and viral hepatitis (B and C)⁵. In the developed world, the most common causes are hepatitis C virus (HCV), alcoholic liver disease, and nonalcoholic steatohepatitis (NASH), while hepatitis B virus (HBV) and HCV are the most common causes in the developing world³. Cirrhosis develops in about 10-20% of patients within 5-30 years⁶.

Most patients with cirrhosis remain asymptomatic until they develop features of decompensation. At this stage, patients experience complications associated with portal hypertension including ascites, spontaneous bacterial peritonitis (SBP), hepatic encephalopathy (HE), hepatorenal syndrome, portopulmonary hypertension, or variceal bleeding. In addition, intestinal microbial translocation in patients with cirrhosis might also cause SBP and HE⁷. Ascites is the most common complication of cirrhosis and is frequently a cause of admission to the hospital⁸. Within 10 years of the diagnosis of cirrhosis, more than 50% of patients develop ascites⁹. Overt hepatic encephalopathy affects approximately 20% of patients with liver cirrhosis each year and a common cause of admission to emergency departments¹⁰. Esophageal variceal bleeding is a common complication of cirrhosis with a mortality of 17-42% per bleeding episode¹¹. Hepatocellular carcinoma (HCC), the most common primary liver cancer, can develop at any stage of cirrhosis¹².

1. Dr. Mohammad Iqbal Hossain. MBBS, FCPS (Medicine), Assistant Professor, Department of Medicine, Faridpur Medical College, Faridpur.
2. Dr. Md. Aynul Islam. MBBS, MCPS (Medicine), FCPS (Medicine), Assistant Professor, Department of Medicine, M Abdur Rahim Medical College, Dinajpur.
3. Dr. M. M Bodiuzzaman. MBBS, FCPS (Medicine), Assistant Professor, Department of Medicine, Faridpur Medical College, Faridpur.
4. Dr. Md. Shahidul Islam Talukder. MBBS, FCPS (Medicine), Assistant Professor, Department of Medicine, Shaheed M Monsur Ali Medical College, Sirajgonj.
5. Dr. M. M. Shahin-Ul-Islam. MBBS, FCPS (Medicine), MD (Gastroenterology). Associate Professor (CC), Department of Gastroenterology, Faridpur Medical College, Faridpur.
6. Dr. Arunangshu Raha. MBBS, MD (Gastroenterology), Assistant Professor, Sheikh Russel Gastro Liver Institute & Hospital, Dhaka.

Address of correspondence :

Dr. Mohammad Iqbal Hossain. MBBS, FCPS (Medicine), Assistant Professor, Department of Medicine, Faridpur Medical College, Faridpur. Mob: +88-01712655236, E-mail: iqbal9353@gmail.com

The clinical course of cirrhosis in Bangladesh is unknown. There is paucity of data regarding demographic characteristics, mode of clinical presentation and other factors in cirrhotic patients which highlights the importance of the present study.

Materials and Methods:

This cross-sectional study was carried out in the department of medicine of Faridpur Medical College Hospital from November 2018 to April 2019. Patients having evidence of cirrhosis of the liver on clinical and diagnostic evaluation were included in this study. Data were collected by detailed history from patients or their relatives followed by thorough physical examination as well as diagnostic evaluation; then those were checked, verified for consistency and edited for result. After editing and coding, the coded data were analyzed by using the SPSS\PC software package.

Results:

A total of 89 cirrhosis patients were included in the study; 62 (69.7%) were male and 27(30.3%) were female with a male to female ratio of 1:0.44. Age of patients ranged between 22-106 years with mean age of 52.33 year. The substantial number of patients (61.8%) had significant past history; of them 27% had a history of surgery or other invasive procedures, followed by blood transfusion in 15.7%, history of exposure to promiscuous sexual activity in 10.1%, positive family history in 7.9% and alcohol abuse in 1.1% of cases.

Regarding mode of presentation, most patients presented with ascites (49.4%) followed by gastrointestinal bleeding (27%), peripheral edema (24.7%), and encephalopathy (21.3%) (Table I). The rest of the patients presented as follows, decreased urinary output (6.7%), hepatocellular carcinoma (4.5%), jaundice (3.4%) and incidental or others (6.7%).

Table I: Distribution of patients according to Clinical Presentation (n=89)

Presentation	Number of patients (%)
Ascites	44 (49.4)
Peripheral edema	22 (24.7)
Gastrointestinal bleeding	24 (27.0)
Encephalopathy	19 (21.3)

Most of the patients were discharged uneventfully with in-hospital mortality rate of 11.2%. The patients presented with decreased urinary output, peripheral edema and encephalopathy (Table II) had a statistically significant death rate of 50%, 27.27% and 26.32% respectively. The patients presented with ascites, gastrointestinal bleeding, abdominal pain, jaundice, hepatocellular carcinoma had death rate of 13.64%, 12.5%, 11.11%, 0%, 0%, respectively; these are not statistically significant.

Table II: Distribution of patients according to presentation and outcome (n=89)

Feature	Present [Number (%) of death among them]	Absent (Number of death among them)	P value*
Decreased urine output	6 [3 (50)]	83 (7)	0.002
Peripheral edema	22 [6 (27.27)]	67 (4)	0.006
Encephalopathy	19 [5(26.32)]	70 (5)	0.019

*Test was carried out by χ^2 test. df=1

Discussions:

In this study a total of 89 patients were included and demographic as well as pertinent data regarding cirrhosis including their mode of presentation were collected. Most patients were male (69.7%) with a male to female ratio of 1:0.44. Approximately 61.8% had significant past history which might be related to their disease. Substantial numbers of patients were discharged uneventfully (88.8%).

Most of the patients presented with ascites (49.4%), gastrointestinal bleeding (27%), peripheral edema (24.7%), and encephalopathy (21.3%). Recent research conducted by Nilsson E et al in Sweden revealed that out of 1317 patients of cirrhosis, ascites was present in 43% cases followed by variceal bleeding in 6% and overt encephalopathy in 4% cases¹. In a study that included hospital admissions for liver cirrhosis in Portugal during the past decade, hepatocellular carcinoma and fluid retention were more common in viral cirrhosis, whereas encephalopathy and variceal bleeding were more frequent in alcoholic cirrhosis. Hepatorenal syndrome was the strongest predictor of mortality among cirrhosis complications¹³. These results are mostly consistent with the present study.

Several studies tried to define the impact of different clinical features of decompensation on survival. Horvath A et al identified factors associated with high mortality and found that hepatorenal syndrome carried the highest mortality rate, followed by spontaneous bacterial peritonitis, hepatic encephalopathy, pneumonia and malnutrition¹⁴. In another study on hospitalized patients in the United States revealed that hepatorenal syndrome, hepatocellular carcinoma, variceal bleeding, and spontaneous bacterial peritonitis were associated with a higher mortality rate¹⁵. In this study the in-hospital mortality rate was 11.2%. The patients presented with decreased urinary output, peripheral edema and encephalopathy had statistically significant death rate. These findings are mostly coherent with the above mentioned citations.

Conclusion:

Liver cirrhosis is an important cause of disability and death worldwide. Most of the patients present with features of decompensation in the hospital. The predominant number of patients presented with ascites, gastrointestinal bleeding, peripheral edema, and encephalopathy in our setting. There was a significant relation between some of the clinical presentations and in-hospital mortality. This study was conducted among relatively small number hospitalized patients, so it may not reflect the actual scenario at community level.

Acknowledgement:

Authors of the study are thankful to Dr. Suman Das, MBBS for his cooperation.

References :

1. Nilsson E , Anderson H, Sargenti K, Lindgren S, Prytz H. Incidence, clinical presentation and mortality of liver cirrhosis in Southern Sweden: a 10-year population-based study. *Aliment Pharmacol Ther.* 2016 Jun; 43(12):1330-9.
2. Alsultan MA, Alrshed RS, Aljumah AA, Baharoon SA, Arabi YM, Aldawood AS. In-Hospital Mortality Among a Cohort of Cirrhotic Patients Admitted to a Tertiary Hospital. *Saudi J Gastroenterol.* 2011 Nov-Dec; 17(6): 387-90.
3. Sharma B, John S. Hepatic Cirrhosis. [Updated 2019 Jun 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2019 Jan.
4. Heidebaugh JJ, Bruderly M. Cirrhosis and chronic liver failure: part I. Diagnosis and evaluation. *Am Fam Physician.* 2006 Sep 1; 74(5):756-62.
5. Nayak M, Anubhaw N, Nayak R. Incidence of Hepatic Encephalopathy in Cirrhosis of Liver. *IJCMR.* 2016; 3(12):3528-32.
6. Das DC , Mahtab MA , Rahim MA , Malakar D, Kabir A, Rahman S. Hepatitis B virus remains the leading cause of cirrhosis of liver in Bangladesh. *Bangladesh Med J.* 2016 Sept; 45(3):164-6.
7. Poordad FF. Presentation and complications associated with cirrhosis of the liver. *Curr Med Res Opin.* 2015 May; 31(5):925-37.
8. Yıldız H, Akdoğan M, Suna N, Öztaş E, Kuzu UB, Bilge Z, et al. Cirrhosis with ascites: Is the presence of hemorrhagic ascites an indicator of poor prognosis?. *Turk J Gastroenterol.* 2016 Jul; 27(4):349-53. Epub 2016 Apr 28.
9. Biecker E. Diagnosis and therapy of ascites in liver cirrhosis. *World J Gastroenterol.* 2011; 17(10): 1237-48.
10. Ellul MA, Gholkar SA, Cross TJ. Hepatic encephalopathy due to liver cirrhosis. *BMJ* 2015; 351:h4187.
11. Morss DY S, Cromwell DM, Thuluvath PJ, Bass EB. Hospital experience and outcomes for esophageal variceal bleeding. *International Journal for Quality in Health Care* 2003; 15(2):139-46.
12. Pinter M, Trauner M, Peck-Radosavljevic M, Sieghart W. Cancer and liver cirrhosis: implications on prognosis and management. *ESMO Open* 2016; 1:e000042.
13. Silva MJ, Rosa MV, Nogueira PJ, Calinas F. Ten years of hospital admissions for liver cirrhosis in Portugal. *Eur J Gastroenterol Hepatol.* 2015 Nov; 27(11):1320-6.
14. Horvath A, Leber B, Lemesch S, Stadlbauer V. Hospital mortality of cirrhosis: better, but still room for improvement! *Liver Int.* 2013; 33:809-10.
15. Schmidt ML, Barritt AS, Orman ES, Hayashi PH. Decreasing mortality among patients hospitalized with cirrhosis in the United States from 2002 through 2010. *Gastroenterology* 2015 May; 148(5):967-77.e2. Epub 2015 Jan 23.