

Frequency of Asymptomatic Spontaneous Bacterial Peritonitis in Chronic Liver Disease Patients with First Presentation of Ascites

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Objective: This study is done to assess the frequency of asymptomatic spontaneous bacterial peritonitis in chronic liver disease patients with first presentation of ascites. **Design:** Case control study. **Place & duration of study:** This study was carried out on patients attending Medical special ward Services hospital & PTCL medical center Lahore from June 2002 to October 2003. **Patients & method:** One hundred & fifty chronic liver disease patients with first presentation of ascites were screened for presence of asymptomatic spontaneous bacterial peritonitis. **Results:** 9.3 % of patients in this study had asymptomatic spontaneous bacterial peritonitis. **Conclusion:** Asymptomatic spontaneous bacterial peritonitis can be present in first presentation of ascites in chronic liver disease patients. It is suggested that this condition should be actively sought in all chronic liver disease patients who develop ascites for the first time. Further studies should be done to assess for prognostic implications of treating such cases

Key Words: Asymptomatic spontaneous bacterial peritonitis, chronic liver disease, ascites

Ascites is common complication of cirrhosis and is associated with a poor quality of life, increased risks of infections and renal failure, and a poor long-term outcome¹. Spontaneous bacterial peritonitis is frequent and serious complication developing in chronic liver disease patients with ascites. Its prevalence among patients with ascites ranges between 10 and 30 percent². Spontaneous bacterial peritonitis is defined as infected ascitic fluid in the absence of secondary cause of peritonitis. In spontaneous bacterial peritonitis ascitic polymorphonuclear cell count is greater than 250/mm and culture is positive. Ascitic fluid in chronic liver disease patients favours bacterial growth because of low opsonic activity.

Infection is monomicrobial and infecting organisms usually belong to intestinal gram-negative bacilli, Streptococci, rarely meningococci campylobacter fetus and pasteurilla groups. The frequency of episodes caused by gram-positive bacteria has recently increased³. Some studies showed mortality rate was significantly higher in patients with antibiotic-resistant bacteria⁴. However, the Child-Pugh score, and renal failure were the only independent significant predictors of mortality in patients with spontaneous bacterial peritonitis. Spontaneous bacterial peritonitis involves movement of bacteria from the intestinal lumen to the lymph nodes, leading to bacteraemia and infection of ascitic fluid⁵. Sometimes culture negative neutocytic ascites is also seen. Monomicrobial non- neutocytic bacterascites is also seen that can resolve without treatment but at times can progress to spontaneous bacterial peritonitis. After resolution, spontaneous bacterial peritonitis frequently recurs, and has high rate of relapse. In some studies after successful treatment, recurrence rate is as high as 70 percent in one year⁶. Long-term antibiotic prophylaxis with quinolones (norfloxacin, 400 mg per day orally) can reduce the rate of recurrence⁷.

Long-term antibiotic prophylaxis can also have a beneficial effect on patients' survival, because of the high mortality rate associated with spontaneous bacterial peritonitis. Although a attractive but this idea has not been specifically assessed in a clinical trial.

Chronic liver disease patients with spontaneous bacterial peritonitis are frequently symptomatic. Mostly observed clinical features are abdominal pain, distension, fever, local tenderness and clinical worsening of liver disease in patients with cirrhotic ascites. Early detection and prompt treatment of these cases can be life saving. Some of the cases of spontaneous bacterial peritonitis can be asymptomatic. This study is done to know about the frequency of asymptomatic spontaneous bacterial peritonitis, in chronic liver disease patients with first presentation of ascites.

Patients and method:

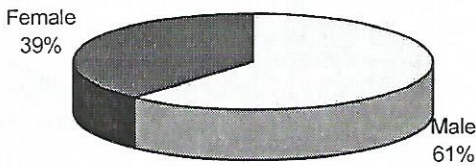
One hundred & fifty chronic liver disease patients with first presentation of ascites were included in this study. Chronic liver disease patients attending Medical special ward Services hospital & PTCL medical center Lahore from June 2002 to October 2003 were screened for this complication. Informed written consent was obtained from these cases. All patients had chronic liver disease with first presentation of ascites. Patients with secondary bacterial peritonitis, diabetes, on corticosteroids or other immunosuppressive treatment were excluded from this study.

All patients underwent diagnostic abdominal paracentesis. Chemical, cytological & microbial analysis of ascitic fluid was carried out. Culture bottles were inoculated at bedside. In addition complete blood count with ESR, LFTs, PT, APTT, blood urea, serum creatinine, serum Na, K, urine C/E, blood glucose & abdominal ultrasound tests were performed in all patients. Blood

culture was also performed in febrile patients. Spontaneous bacterial peritonitis was diagnosed on the basis of presence of ascitic polymorphonuclear cell count greater than 250/mm and positive ascitic fluid culture.

Results

Total of 150 patients of chronic liver disease were screened for presence of spontaneous bacterial peritonitis. Figure 1 shows sex wise distribution of these cases Most of cases included in our study were male (61.3%) Fig. 1



Patients included in our study were between 31 to 69 years. Figure 2 shows age wise distribution of cases.

Fig 2 Age wise distribution of cases

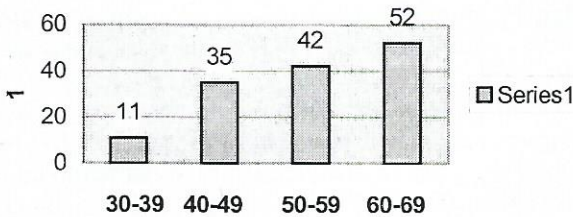


Table 1 shows the aetiological diagnosis of chronic liver disease, of the cases included in our study. This shows that majority of cases included in our study were suffering from Hepatitis C (91.6%)

Table 1: Aetiological diagnosis of chronic liver disease cases in study

Diagnosis	n=	%age
Hepatitis C	94	62.6
Hepatitis C & Hepatitis B	29	29
Hepatitis B	9	6
Cryptogenic	18	18
Total	150	100

14 (9.3%) cases of spontaneous bacterial peritonitis were detected in our study. Culture of ascitic fluid showed presence of E.coli in 13 cases and S.Pneumonia in 1 patient, suffering from spontaneous bacterial peritonitis.10

of the 14 cases suffering from spontaneous bacterial peritonitis were male and 4 were female.

Discussion

Asymptomatic spontaneous bacterial peritonitis is now an established entity that can occur in patients suffering from chronic liver disease⁸. The results of our study showed an incidence of 9.3 %. This finding is not consistent with finding of Thanopoulou AC et. al. that sowed incidence of 18%perhaps this difference could be due to our selection of chronic liver disease cases with first presentation of ascites. Most of the cases suffering from spontaneous bacterial peritonitis in our study were male 9/14 cases. This finding is consistent with the finding of study conducted by Ageely H et.al⁹.

The results of our study showed that patients suffering from ascites can have asymptomatic spontaneous bacterial peritonitis and this condition should be actively sought in chronic liver disease patients with first presentation of ascites.It is also recommended that further studies should be done to look into the prognostic implications of this condition.

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