

To study the age and sex relationship with SBP in patients of CLD

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Correspondence Author: Dr Kunal Sahai**Conflicts of interest:** None to Declare**Abstract**

Spontaneous bacterial peritonitis is one of the major complication of chronic liver disease. Patients of CLD with ascites were divided into two major groups on the basis of clinical features and ascitic fluid examination. Out of total 55 patients of CLD, 20 patients were diagnosed as SBP and rest 35 patients had sterile ascites.

Relevance of Age and sex parameters were studied among both the groups. Maximum incidence of SBP (45%) was found between group 41-50 yrs age. Among the study population 40 patients were male and 15 patients were female. There is a male predominance in patients with SBP. 75% of patients with SBP are male (n=15). Among females only 25% of patients developed SBP (n=5).

Keywords: Spontaneous bacterial, Chronic liver, serum creatinine, ascitic fluid examination.

Introduction

Chronic liver disease is one of the foremost causes of morbidity and mortality throughout the world, posing a major socioeconomic challenge. About half the patients with cirrhosis develop ascites during 10 years of observation. The development of ascites is important in chronic liver disease as half the patients with ascites die within two years.

Spontaneous bacterial peritonitis (SBP) is characterized by spontaneous infection of ascitic fluid in the absence of any intra abdominal source of infection. Its prevalence ranges between 10 to 30 percent of patients.

Material and Methods

The study was carried out in the post graduate institute of medicine, GSVM Medical college. The material of study included patients of all age group having chronic liver disease with ascites selected from medicine indoor wards.

Type of study- prospective observational study

Inclusion criteria

Patients of age group between 21-70 years having chronic liver disease with ascites selected from medicine indoor wards.

Exclusion Criteria

Patients with age group < 20 and >70 were excluded. Patients having had a peritoneal paracentesis within last 2 weeks for cardiac reasons, malignancy, tubercular peritonitis, pancreatic ascitis, congestive heart failure, acute viral hepatitis and secondary peritonitis were excluded.

Methods

History: weight loss, jaundice, fever, distension of abdomen, abdominal pain, dyspnoea, melena, hematemesis, history of alcohol and drug intake,

Examination: general and abdominal

Investigations

Routine: complete haemogram, Erythrocyte sedimentation rate, complete examination of urine

Specific- liver function test, serum creatinine, ascitic fluid examination, ultrasonography whole abdomen, HBsAg elisa, anti hcv

Serum ascites albumin gradient was calculated by subtracting the ascitic albumin from serum albumin. On the basis of investigations patients were divided into two groups. Group A- sterile cirrhotic ascites, group B- spontaneous bacterial peritonitis

Treatment

Patients with spontaneous bacterial peritonitis were divided in to two groups on the basis of serum creatinine-

1) **COMPLICATED SBP:** Serum creatinine > 3 mg/dl, and/ or presence of hepatic encephalopathy.

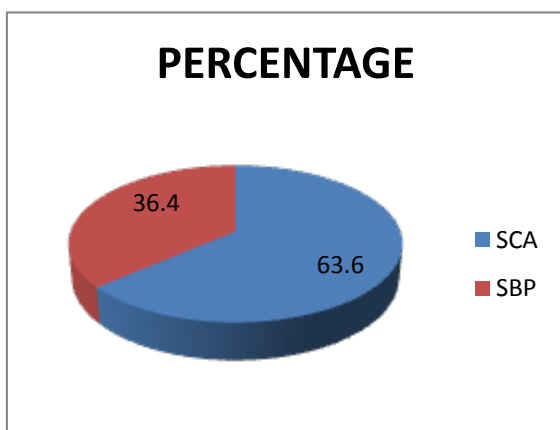
2) **UNCOMPLICATED SBP:** Serum creatinine < 3mg/dl, no features of hepatic encephalopathy. Patients with complicated SBP were treated with IV antibiotic cefotaxime plus IV albumin and patients with uncomplicated SBP were given IV cefotaxime alone .

Cefotaxime was given at a dose of 2gm iv 8 hrly and albumin at a dose of 1.5 gm/kg body weight at time of diagnosis, followed by 1 gm/kg body weight on day 3.

Observation

Graph -I

Incidence of SBP in Our City Hospital



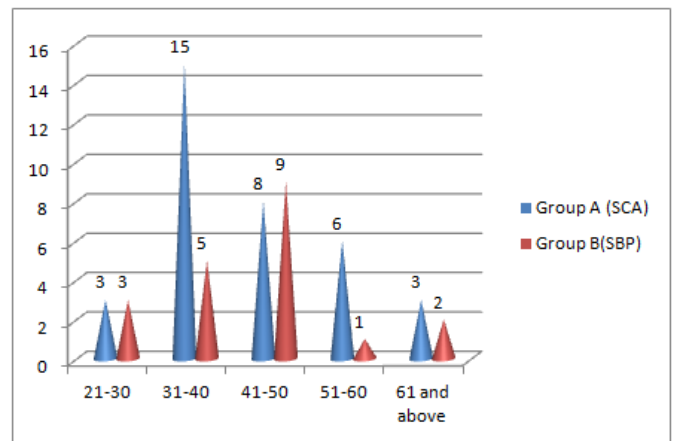
In present study 55 cases of chronic liver disease with ascites have been investigated and studied for ascitic fluid physical, cytology, gram stain, culture, ascitic/serum total protein ratio and serum ascitic albumin gradient. Out of which 35 patients were of sterile ascites (GROUP A) whereas 20 patients were found to have spontaneous bacterial peritonitis (group B).

Age Incidence In The Two Groups

Table I: Showing Age Incidence In The Group A, B

S.No.	Age Group (yrs)	Group A (SCA)		Group B (SBP)	
		No.	%	No.	%
1	21-30	3	10	3	12
2	31-40	15	42	5	25
3	41-50	8	22	9	45
4	51-60	6	17	1	5
5	61 and above	3	8	2	1
	Total	35	100	20	100

Graph-II

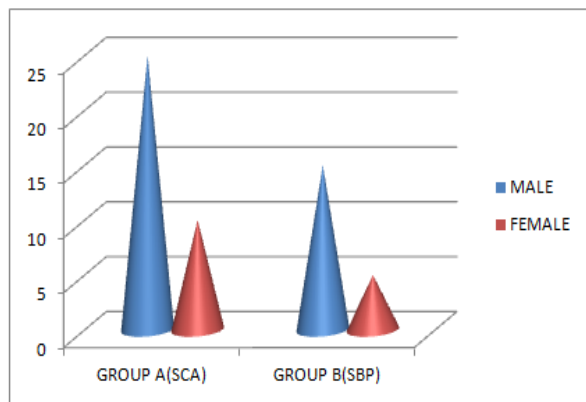


- 1) The mean age of patients in different groups is as Group A $42 \pm 11.8 \pm 2.15$ years, Group B $41.72 \pm 12.06 \pm 2.4$ years (Mean \pm SD \pm SEM).
- 2) Maximum incidence of disease is between 31-50 yrs of age.

TABLE II: Showing Sex Incidence Of Patients In Two Groups

S.No.	Age Group(yrs)	Group A (SCA)		Group B (SBP)	
		No.	%	No.	%
1	Male	25	73	15	75
2	Female	10	27	5	25
	total	35	100	20	100

GRAPH III: Sex Incidence In Group A And B.



Result: Male to female ratio is 2.5:1 (25 males and 8 female) in Group A and 3:1 (15 male and 5 female) in Group B.

Discussion

In our study of 55 patients of chronic liver disease, 20 patients were diagnosed to have spontaneous bacterial peritonitis (36.4%) on the basis of clinical features and ascitic fluid investigations. Rest of the patients, i.e. 35 patients were found to have sterile ascites (63.6%). The prevalence of SBP depends on severity of liver dysfunction, being higher in advanced liver disease. In one study 29 patients with persistent ascites were observed. Six episodes of spontaneous bacterial peritonitis occurred after an average 12.8 weeks. Occurrence of SBP significantly correlated with ascitic fluid protein

concentration (p=0.01) and serum bilirubin (p=0.04). Moreover its association with acid-suppressive therapy was found of borderline significance(p=0.08).(7). In a study from India , Jain et al reported similar prevalence of SBP 34.92% out of 63 hospitalized patients. However, one another study reported only 30% patients developing SBP. One reason for lower incidence of SBP is the strict criteria for diagnosing a clinical case of liver cirrhosis. In one study it was found that the incidence of SBP was 36% in patients with hepatic encephalopathy and 10% in patients without hepatic encephalopathy (p<0.01).(2,4)

Of the 55 patients studied, 20 patients were diagnosed as having SBP. The mean age of these patients was 41.72 with SD (± 12.06). And maximum incidence of SBP was between age group 41-50yrs (45%). Group A patients has mean age of 42.3 ± 11.81 . Mean age of both groups is not different from each other. In a study performed earlier in 81 patients, mean age of patients having SBP was 48.45 ± 12.68 years ranging from 23 to 70 years. However, our observation in this regard does not match with western workers who found mean age of incidence of SBP in 58 ± 11 yrs age group. The difference may be because of variation in the geographical prevalence or because of different etiology of cirrhosis in the two study groups.(1,3)

Among the study population 40 patients were male and 15 patients were female. There is a male predominance in patients with SBP. 75% of patients with SBP are male. Among males 15 patients were diagnosed as having SBP and among females only 25 % of patients developed SBP. This wide variation in sex incidence is difficult to explain. Possibly this variation is due to different natural history of the disease or due to different etiological case of cirrhosis in the two study groups. However, according to one study the male predominance is due to the male predominance

in cirrhosis. 75% of patients with SBP and 73% of cirrhotic patients with sterile ascites are male. (1,3)

Conclusion

In our study the incidence of SBP was 36.36% (20 patients). Patients of cld presenting with refractory distension of abdomen, fever >100F, upper GI bleed, abdominal tenderness have increased risk of developing spontaneous bacterial peritonitis.

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