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FREQUENCY OF SPONTANEOUS BACTERIAL PERITONITIS IN PATIENTS WITH HEPATIC ENCEPHALOPATHY.

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ABSTRACT

Introduction: Spontaneous bacterial peritonitis is a common and severe complication of liver cirrhosis. Hepatic encephalopathy is one of the presentation of SBP. Without early antibiotic treatment, this complication is associated with high mortality rate, so early diagnosis is needed for those presenting with encephalopathy.
Objectives: To determine the frequency of SBP in Hepatic Encephalopathy patients and association of different grades of hepatic encephalopathy with SBP.
Design: Descriptive study
Place of Study: Department of medicine, Medical Unit-I Chandka Medical College Hospital, Shaheed Mohtarma Benazir Bhutto Medical University Larkana.
Duration of Study: From February 2009 to February 2010.
Patients and Method: Patients with any grade of hepatic encephalopathy who were admitted, meeting the inclusion criteria were entered in the study. Informed consent was taken. Paracentesis was performed for ascitic fluid analysis on patients with ascites. Proforma was filled by researcher after getting report of ascitic fluid DR.
Results: Total 122 patients with hepatic encephalopathy were included in study. Mean age of patients was 43 ±16. Out of them 96(78.7%) were male and 26(21.3%) were female. SBP was present in 59 (48.46%) patients. SBP was found in 46 (78%) males and 13 (22%) in females. Among the SBP patients 23(39%) grade-I, 23(39%) grade-II, 9(15.3%) grade-III, 4(6.8%) grade-IV encephalopathy was present with P value 0.01.
Conclusion: SBP was present in significant number of patients with hepatic encephalopathy. SBP is one of the precipitating and life threatening factor in hepatic encephalopathy patients, so every patient should be evaluated for SBP and treated promptly.

KeyWords: SBP, Hepatic Encephalopathy.

INTRODUCTION

Hepatic encephalopathy is a syndrome of neuropsychiatric abnormalities in patients with liver cirrhosis.[1] It is presented as change in personality , intellectual impairment and declining level of consciousness.

There are many precipitating factors for developing hepatic encephalopathy which include gastro-intestinal bleeding, infections, constipation, electrolyte imbalance (hyponatremia, hypokalemia), hypoglycemia, Drugs (sedative-hypnotics, opiates).[2-5] It is imperative to identify one of these factors so that prompt treatment given to get patient out of encephalopathy.

Bacterial infections are important cause of morbidity and mortality in patients with hepatic encephalopathy.[6] Spontaneous bacterial peritonitis (SBP) and other infections are most prevalent precipitating factor in these patients.[7]

Symptoms of SBP are non-specific, only hepatic encephalopathy can be the presentation of SBP.[8,9] SBP can lead to early death and accounted for 30-50% mortality rate,[10] so early diagnostic paracentesis should be performed in every patient presented with hepatic

encephalopathy.[11]

Due to high mortality of SBP in cirrhotic patients, the aim of this study is to determine the frequency of SBP in hepatic encephalopathy patients and to determine association of different grades of hepatic encephalopathy with SBP.

MATERIAL & METHODS

This study was conducted in medical unit-I Chandka Medical College Hospital, Shaheed Mohtarma Benazir Bhutto Medical University Larkana, from February 2009 to February 2010.

This was hospital based cross sectional study. All patients with hepatic encephalopathy and ascites were included after informed consent. Those patients with fulminant hepatic failure, non-cirrhotic portal hypertension, uremic, anoxic, cerebral and metabolic encephalopathy were excluded from study.

The diagnosis of hepatic encephalopathy was made based on detailed history, physical examination an exclusion of other causes of encephalopathy.

Hepatic encephalopathy was graded according to west heaven criteria [12] (Table-1)

All patients meeting the inclusion criteria underwent diagnostic paracentesis. Patients were labeled as having SBP when ascitic fluid neutorphil count ?250/cmm. A detailed Performa of demographic, clinical and laboratory parameters were recorded. This study was approved from ethical review board.

STATISTICAL ANALYSIS

Statistical analysis was performed using SPSS v15. Relevant descriptive statistics, frequency & percentages were computed for the presentation of qualitative variables i.e. sex, hepatic encephalopathy grade, presence & absence of SBP. Continuous variable like age presented as Mean ±SD. Grades of hepatic encephalopathy were compared with presence or absence of SBP using x2 test. P value <0.05 was considered statistically significant.

RESULTS

Total 122 patients with hepatic encephalopathy were included in study. Mean age of patients was 43 ±16. Of them 96(78.7%) were male and 26(21.3%) were female. HBsAg was positive in 42(34%), Anti-HCV positive in 70(58%) and both HBsAg & Anti-HCV was positive in 10(8%) of patients.(Table-2) Overall SBP was present in 59 (48.46%) patients(Figure-1). SBP was found in 46 (78%) males and 13 (22%) in females. Among the SBP patients 23(39%) grade-I, 23(39%) grade-II, 9(15.3%) grade-III, 4(6.8%) grade-IV encephalopathy was present with P value 0.01. (Table-3)

TABLE-1.

WEST HAVEN CRITERIA

Grade 1	Trivial lack of awareness Euphoria or anxiety Shortened attention span Impaired performance of addition
Grade 2	Lethargy or apathy Minimal disorientation for time or place Subtle personality change Inappropriate behavior Impaired performance of subtraction
Grade 3	Somnolence to semi stupor, but responsive to verbal stimuli Confusion Gross disorientation
Grade 4	Coma (unresponsive to verbal or noxious stimuli

TABLE-2.

CHARACTERISTICS OF 122 PATIENTS WITH HEPATIC ENCEPHALOPATHY

Characteristics	**Mean ± SD or Number (%)**
Male	96(78.7%)
Female	26(21.3%)
Age (mean ± SD)	43 ± 16
Viral Cause of Cirrhosis	
HBsAg Positive	42 (34%)
Anti-HCV Positive	70 (58%)
Both HBsAg & Anti-HCV Positive	10 (8%)

TABLE-3.

RELATIONSHIP OF HEPATIC ENCEPHALOPATHY GRADES WITH PRESENCE OR ABSENCE OF SBP

Grades	**SBP Present**	**SBP Absent**	**P-value**
GRADE I	23 (39%)	12 (19%)	
GRADE II	23 (39%)	25 (39.7%)	P 0.01
GRADE III	9 (15.2%)	11 (17.5%)	
GRADE IV	4 (6.8%)	15 (23.8%)	

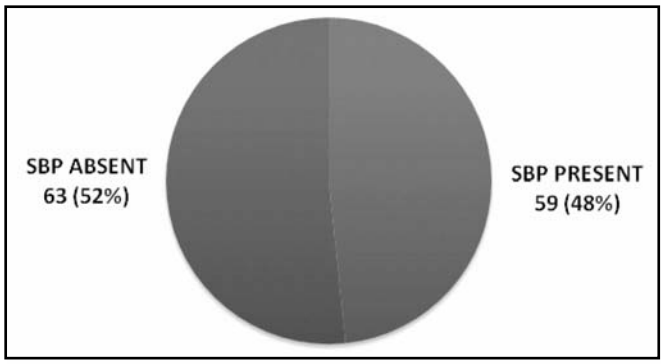
DISCUSSION

Patient with cirrhosis can develop hepatic encephalopathy at any time during the course of their illness. Hepatic encephalopathy carries poor prognosis in cirrhotic patients[13,14] its presence warrants the physician for identification of its precipitating factor which is very important for management.[15] Bacterial infection like SBP needs early diagnosis to prevent mortality. In this study SBP was present 59 (48.46%) patients. This is showing very high presence of SBP in cirrhotic patients with hepatic encephalopathy. Frequency of SBP in Pakistan reported from different studies varies , it ranges from 32% to 64%.[16,17] This study is about frequency of SBP in hepatic encephalopathy patients as a risk factor and found SBP in 48% of hepatic encephalopathy patients. Mumtaz et all identified SBP as a common precipitant, SBP was present in 20.5% of patients with hepatic encephalopathy.[7]

Another study from Hyderabad Sindh by Bekha-ram et al also revealed infection as dominant factor present in 67% of patients with H.E.[18] However infection rate was lower in the study of faloon.[19]

The reason for high rate of SBP in these patients' unhygienic

FIGURE-1.
FREQUENCY OF SBP IN HEPATIC ENCEPHALOPATHY PATIENTS



living conditions, high rate of general infection, frequent use of proton pump inhibitors (PPI) and low immunity to fight infection because of malnourishment. These patients are not taking good quality diet because of anorexia, poverty, food faddism.[20] Another most important reason for high SBP rate in this area is that these patients are not taking primary or secondary prophylaxis of antibiotics.

Primary prophylaxis of antibiotics is recommended for high risk cirrhotic patients with ascitic fluid albumin < 1.5 gm/dl.[21]

Following upper gastrointestinal bleed due to variceal hemorrhage, there is risk of bacteremia [22], in this condition antibiotic prophylaxis decrease the incidence of bacterial infection and improves survival. This study identified high rate of SBP in grade I & II 46(38%) HE patients, rather in grade III & IV 13(11%) with significant P value, so our study does not show strong relation of high grades of H.E with SBP. One possible explanation is that other contributing factors causing more severe hepatic encephalopathy than infection. It is therefore important to identify SBP event in grade I & II H.E as early as possible that prompt treatment be given to prevent mortality. One limitation of this study is all precipitating factors are not studied.

CONCLUSION

There is high rate of SBP in hepatic encephalopathy so patients must be taught regarding keeping better hygienic conditions, about their dietary plan and importance of taking antibiotic prophylaxis.

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