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A Study of Correlation of Spontaneous Bacterial Peritonitis(SBP) and Child Turcotte PUGH(CTP) Score

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ABSTRACT

BACKGROUND : Spontaneous Bacterial Peritonitis is defined as absolute level of PMN in ascitic fluid more than 250/ml. It is the most frequent cause of infection and associated with high mortality. CTP score is used to assess the prognosis of cirrhotic patients.

AIMS & OBJECTIVES : To study the incidence and prognosis of SBP in cirrhotic patients with correlation to CTP score

METHOD : Seventy Five(75) patients of chronic liver disease above 12 years of age irrespective of sex and etiology admitted between august 2012 to august 2013 were studied retrospectively and their ascitic fluid analysis and CTP score using bilirubin,prothrombin time, serum albumin, grade of ascites and encephalopathy were assessed and correlated.

RESULTS : In our study, 25.3% of the patients were diagnosed with SBP. Of these patients with SBP, 78% of them had CTP score 10 or more. Thus 39% patients with CTP >=10 had SBP as compared to 10% incidence of SBP in other patients.

Five of SBP patients expired. 4 of them had CTP >=10 thus amounting to higher mortality in this subgroup.

CONCLUSION : Incidence of SBP was higher in patients with CTP score >=10(stage C.) and was associated with poor prognosis and higher mortality rate. Such patients need more intensive care and management

KEYWORDS :

INTRODUCTION

Cirrhosis is a condition that is defined histopathologically and has a variety of clinical manifestations and complications, some of which can be life-threatening..

Chronic liver disease and cirrhosis result in about 35,000 deaths each year in the United States. Cirrhosis is the ninth leading cause of death in the United States and is responsible for 1.2% of all US deaths. Data from our coumtry is lacking.

For Prognostication classifying chronic liver disease into compensated , MELD score, CTP score , presence of Spontaneous Bacterial Peritonitis are important and play an important role in determining the morbidity and mortality.Compensated cirrhotic patients have a 50% 10 - year survival as compared to 50% survival at 18 months for decompensated patients [1]SBP occurs in 9% of hospitalized patients with cirrhosis and accounts for 25% of all infections [4] It is particularly frequent in severely decompensated cirrhosis.

MATERIALS AND METHODS

Incidence and prognosis of SBP in cirrhotic patients with correlation to CTP score were studied in 75 patients of chronic liver disease above 12 years of age irrespective of sex and etiology admitted between august 2012 to august 2013 were studied retrospectively and their ascitic fluid analysis and CTP score using bilirubin,prothrombin time, serum albumin, grade of ascites and encephalopathy were assessed and correlated.

SBP is defined as PMN count more than 250/ml [2] ; Absence of a contiguous source of infection (e.g. intestinal perforation, intra – abdominal abscess) and in the absence of an intra – abdominal inflammatory focus (e.g. abscess, acute pancreatitis,cholecystitis).

CTP SCORE(table 1)

Group designation	A	B	C
Serum bilirubin* (mg/dL)	Below 2.0	2.0–3.0	Over 3.0
Serum albumin (g/dL)	Over 3.5	3.0–3.5	Under 3.0
Ascites	None	Easily controlled	Poorly controlled
Neurological disorder	None	Minimal	Advanced coma
PT/INR	<1.7	1.7–2.1	>2.1

RESULTS

- Of the total 75 patients , 38 had CTP score >=10
- 37 had CTP score less than 10
- Total 19 patients had SBP ,15 of them had CTP score >=10 implying 78% of the patients with SBP had CTP score on higher side (stage C)
- Thus an incidence of 39% of SBP in stage C patients compared to 10% in other subset. Only Four of SBP patients had score less than 10

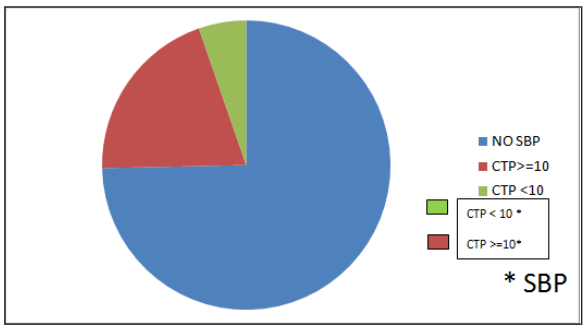

Table 2 SBP AND CTP SCORE

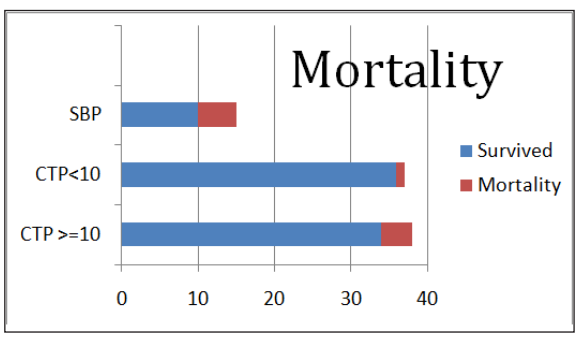

table 3

DISCUSSION

CTP score, MELD score , Discriminant Function MELD-Na are the Prognostic markers which have been designed to ascertain the morbidity and mortality associated with these disease and the need of more aggressive management in such patients.(table 4,5)

Points	Class	One year survival	Two year survival
5-6	A	100%	85%
7-9	B	81%	57%
10-15	C	45%	35%

Table - 4

In interpreting the MELD Score in hospitalized patients, the 3 month mortality is:

- 40 or more — 71.3% mortality
- 30–39 — 52.6% mortality
- 20–29 — 19.6% mortality
- 10–19 — 6.0% mortality
- <9 — 1.9% mortality

Table 5

• In our study We assesed the CTP score of all patients using table 1 and found that patients with higher class or score had higher incidence of spontaneous bacterial peritonitis. SBP was decided on basis of number of PMN cells in Ascitic fluid analysis. It is particularly frequent in severely decompensated cirrhosis. With SBP, 10 – 20% of patients will die during that hospital admission. The 1 year probability of SBP recurrence is 69% . Median survival of a patient who developed SBP is 9 months5. In our study mortality was 26 % in patients with SBP and 80% of them score ten or more. Only one patient had score less than ten.

in various studies conducted worldwide , similar correlation has been found. In another study conducted by Kamani L et al it was Patients with SBP(with culture positive) had high CTP score as compared to Culture negative neutrocytic ascites[6].

CONCLUSION :

Thus higher incidence of SBP was noted in patients with higher CTP score (stage C) with higher mortality rate and hence the poorer prognosis[6]. Such patients need more intensive care and management

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