



A STUDY OF SPECTRUM OF THE PRECIPITATING FACTORS OF HEPATIC ENCEPHALOPATHY IN CIRRHOSIS PATIENTS

Gastroenterology

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ABSTRACT

Hepatic Encephalopathy (HE) is a complex, potentially reversible neuropsychiatric condition that occurs due to acute or chronic liver disease¹. In managing patients with HE in cirrhosis of the liver it is very important to stage the encephalopathy into four clinical stages and then try to identify and treat the precipitating factors. In the presence of the precipitating factors, the neurological deficits are usually completely reversible on their correction and the prognosis is good if the precipitant can be treated². Results: A total of 54 patients with cirrhosis of the liver suffering from hepatic encephalopathy were studied for different precipitating factors over a period of 15 months. Spontaneous bacterial peritonitis (SBP) (48.14%) is the most common precipitating factor in our study, followed by gastrointestinal bleeding(31.48%), constipation(27.77%), sepsis(24.04%), hyponatremia(20.37%) and hypokalemia(11.11%). Conclusion: Early detection and diagnosis of the precipitating factors of HE help in the focused treatment of this highly fatal condition thereby reducing the mortality in such patients.

KEYWORDS

HE- Hepatic Encephalopathy, SBP - Spontaneous Bacterial Peritonitis, GI bleed - Gastrointestinal bleed

INTRODUCTION

Hepatic Encephalopathy (HE) is a complex, potentially reversible neuropsychiatric condition that occurs due to acute or chronic liver disease¹. HE is a well-known clinical complication of cirrhosis of the liver and the presence and immediate identification of precipitating factors is extremely important in the diagnosis and management of this fatal condition.

In managing patients with HE in cirrhosis of the liver it is very important to stage the encephalopathy into four clinical stages and then try to identify and treat the precipitating factors. In the presence of the precipitating factors, the neurological deficits are usually completely reversible on their correction and the prognosis is good if the precipitant can be treated².

HE may disable the patient from employment, driving, and self-care, and require the involvement of family members in taking care of affected patients. Patients presenting with hepatic encephalopathy have decreased by the reversibility of the precipitating factors³.

Table 1: West Haven Criteria for Classification of Hepatic Encephalopathy

Stage Features	
0	No abnormality detected
I	Trivial lack of awareness, euphoria or anxiety, shortened attention span, impairment of addition or subtraction
II	Lethargy or apathy, disorientation for time, obvious personality change, inappropriate behavior
III	Somnolence to semistupor, responsive to stimuli, confused, gross disorientation, bizarre behavior
IV	Coma, unable to test mental state

This study aims at studying the precipitating factors of HE in cirrhosis of the liver, hence identifying them and initiating the appropriate treatment can bring down morbidity and mortality.

AIMS AND OBJECTIVES:

To study the spectrum of precipitating factors of hepatic encephalopathy in patients with cirrhosis of the liver.

MATERIALS AND METHODS:

Study Period: From September 2020 to November 2021, A total of 54 patients were included in the study.

Study Design: A hospital-based descriptive and prospective study.

Method Of Collection Of Data

Patients admitted to the medical wards, manifesting symptoms and signs of hepatic encephalopathy associated with cirrhosis of the liver were taken up for the study.

Inclusion Criteria: Patients with age more than 18 years, with clinical symptoms and signs of hepatic encephalopathy associated with cirrhosis of the liver.

Exclusion Criteria:

- Patients of age less than 18 years
- Uremic encephalopathy
- Carbon dioxide narcosis
- Hypoglycemia
- Septic encephalopathy
- Metabolic encephalopathy
- Other conditions which mimic hepatic encephalopathy

A proforma was designed and used for data collection. A detailed clinical history of patients with fever, upper gastrointestinal bleeding (hematemesis and/or melena), constipation, diarrhoea, vomiting, any trauma or surgery and paracentesis was taken. Drug history including the use of diuretics, sedatives/tranquillizers and NSAIDs was also enquired in detail. Past history of previous hospital admissions was also taken. All patients were carefully examined for fever, jaundice, dehydration, anemia, pedal edema, asterixis, fetor hepaticus and ascitis. Hepatic encephalopathy was diagnosed on clinical basis and graded according to West Haven criteria (Table 1). Any evidence for the presence of other co-existent complications of cirrhosis liver was also recorded and Child's Pugh score was assessed for each patient.

All patients were followed throughout their stay in the hospital.

RESULTS

A total of 54 patients with cirrhosis of the liver suffering from hepatic encephalopathy were studied for different precipitating factors over a period of 15 months.

Table 2: Age Distribution

Age Distribution	Number
<30 years	2
30-40 years	7
41-50 years	19
51-60 years	14
>60	12

Table 3: Sex Distribution

Sex Distribution	Number
Males	49
Females	5

Table 4: Etiology of Cirrhosis

Etiology	Number
Alcohol	44
Hepatitis B	7
Hepatitis C	1
Others like toxins, drugs	2

Grade of Hepatic Encephalopathy (Based on West Haven grading)

It was observed that 28 patients among the 54 studied have Grade 2 Hepatic Encephalopathy, 10 patients have Grade 3, 9 patients have Grade 1 and 7 patients have Grade 4 Hepatic Encephalopathy.

Table 5: Grade of Hepatic Encephalopathy

Grades	Number
Grade 1	9
Grade 2	28
Grade 3	10
Grade 4	7

Precipitating Factors of Hepatic Encephalopathy

The most common precipitating factor was Spontaneous bacterial peritonitis (25 patients), followed by GI bleed (17 patients), constipation (15 patients), other septic foci (13 patients), hyponatremia (11 patients), hypokalemia (6 patients), Lasix (4 patients), alkalosis (3 patient), sedatives (1 patient)

Table 6: Precipitating Factors

Precipitating factor	Number
SBP	25
GI Bleed	17
Constipation	15
Other septic foci	13
Hyponatremia	11
Hypokalaemia	6
Lasix	4
Alkalosis	3
Sedatives	1

Table 7: Child-Pugh score

Child-Pugh score	Number
Child A (5-6)	3
Child B (7-9)	15
Child C (10-15)	36

DISCUSSION

In most of the patients with HE, a well-defined precipitating factor usually is seen, and the reversal or control of these factors is an important step in the management. In our study 54 patients with cirrhosis of the liver presented with HE and all possible factors responsible for the precipitation or aggravation of HE were analyzed.

In this study majority of the patients were males, constituting about 91% of cases compared to females (9%). Cirrhosis of the liver and its complications are more in the female western population than in female Indian population. This may also be due to Indian women being less reporting to the hospitals.

Spontaneous bacterial peritonitis (SBP) (48.14%) is the most common precipitating factor in our study, followed by the gastrointestinal bleeding (31.48%), constipation (27.77%), sepsis (24.04%), hyponatremia (20.37%) and hypokalemia (11.11%).

CONCLUSION

There are different factors which play a key role in precipitating hepatic encephalopathy which is common in patients with cirrhosis of the liver. Spontaneous bacterial peritonitis, Upper GI bleeding, constipation, sepsis and electrolyte disturbances were common precipitating factors of HE.

There is a need for good health education in patients who are diagnosed with cirrhosis of liver about the complications like HE and its precipitating factors.

Immediate control of infections, screening upper GI endoscopy and further follow-up, avoiding constipation by laxatives, cautious use of

sedatives and diuretics and proper advice about diet must be part of counselling to cirrhotic patients.

Early detection and diagnosis of the precipitating factors of HE help in the focused treatment of this highly fatal condition thereby reducing the mortality in such patients.

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