

A Retrospective Study Evaluating Clinical Spectrum of the Patients with Acute Hepatic Encephalopathy

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Abstract

Aim: The aim of the present study was to assess the clinical profile of the patients with acute hepatic encephalopathy in a tertiary health care center.

Methods: The present study is a retrospective study carried on patients with acute hepatic encephalopathy patients attending OPD and emergency in Department of Medicine, Mata Gujari Memorial Medical College, Kishanganj, Bihar, India from February 2019 to January 2020. Total 100 patients with inclusion criteria were studied.

Results: Majority of the patients were in the age group of 41- 50 years (35%) followed by 31-40 years (24%). Patients were less in the age group below 20 years (4%). Out of total 100 patients 75 were male and 25 were females. In our study alcoholic liver disease was most common etiological factor (44%). Hepatitis B infection was seen in 32% and Hepatitis C infection in 13% patients. Six patients showed alcoholic liver disease with hepatitis B infection. Unknown etiology was observed in 6% patients. According to Child Pugh score, 58% patients were in group A followed by Group B (33%) and Group C (9%). Majority of the patients were in Grade IV (36%), followed by Grade III (32%). Grade I included 20% patients and Grade II included 12%. Our study revealed majority patients were of type C (80%) Hepatic encephalopathy followed by type A (19%).

Conclusion: Factors affecting mortality in hepatic encephalopathy were Male sex, alcohol intake, Child-Pugh Class C, Grade III and IV hepatic encephalopathy.

Keywords: acute hepatic encephalopathy

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Introduction

Hepatic encephalopathy (HE) is a reversible impairment of neurological and psychiatric function found in patients with advanced liver disease or portosystemic shunt. [1] Hepatic encephalopathy accounts for a large number of hospitalizations and readmissions. It has an enormous impact on healthcare and cost. [2,3] Therefore, it is important to diagnose this condition as the earliest. Minimal HE and Grade I HE are known as covert Hepatic encephalopathy while Grade II, III, and IV are known as overt HE. [4] Meticulous evaluation of HE in chronic liver disease (CLD) patients is needed to exclude other neurological and psychiatric conditions with similar clinical features. [5]

These acute precipitating events can be infectious or non-infectious. There is a difference between the western countries and the eastern countries in the major etiological agents. Viral infections are more common in the east whereas alcohol and drugs are

more common in the west. [6-8] Among infectious causes reactivation hepatitis B virus infection is one of the major cause. Various bacterial, spirochetal and fungal infections can also affect the liver. Among the noninfectious causes alcoholic hepatitis is a common cause. Other causes include drug induced liver injury and surgery. Acute hepatic encephalopathy is reversible with treatment. The reversibility depends on the severity and nature of acute insult and degree of underlying chronic liver disease.

Aim: The aim of the present study was to assess the clinical of the patients with acute hepatic encephalopathy in a tertiary health care center.

Materials and Methods

The present study is a retrospective study carried on patients with acute hepatic encephalopathy patients attending OPD and emergency in Department of

Medicine, Mata Gujari Memorial Medical College, Kishanganj, Bihar, India from February 2019 to January 2020. Total 100 patients with inclusion criteria were studied.

Inclusion Criteria:

1. Patients with signs and symptoms of acute hepatic encephalopathy (Gastrointestinal bleeding like Hemostasis or melena, fever, vomiting, diarrhea, constipation etc)
2. Patients above age of 18 years

Exclusion Criteria:

1. Patients below 18 years
2. Patients with acute alcohol intoxication and alcohol withdrawal state
3. Patients with liver malignancies
4. Patients with neurological and psychiatric diseases.

A valid written consent was taken from the patients after explaining study to them. Data was collected with pre tested questionnaire. Data included sociodemographic data like age, sex. Detailed

history was taken from the patients. Medicine history like sedatives, NSAID and diuretics was taken. Through clinical examination was done by principal investigator. All Patients underwent investigations like CBC, Liver function tests, renal function tests, serum electrolytes, HBs Ag And Anti HCV, Xray chest, abdomen Ultrasound. According to progress of patients other investigations like upper GI copy, serum ceruloplasmin, 24 hrs urinary copper excretion, serum ferritin, transferrin saturation was done if required.

Hepatic encephalopathy was graded according to West Haven classification (Table A) and severity of liver cirrhosis was done with Child-Pugh score system (Table B). Child Pugh score system has three grades. Grade A(5- 6 points) , B(7-9 points) and C(10-15 points). All patients were given symptomatic treatment. Specific treatment was given according to progression of disease. All patients followed until their stay in hospital. Outcome was analyzed as death or discharge of patients. Data was analyzed with appropriate statistical tests.

Results

Table 1: Distribution of patients according to age group and gender

Age groups in years	N	%
< 20	4	4
21-30	10	10
31-40	24	24
41-50	35	35
51-60	22	22
61-70	4	4
>70	1	1
Gender		
Male	75	75
Female	25	25

Majority of the patients were in the age group of 41- 50 years (35%) followed by 31-40 years (24%). Patients were less in the age group below 20 years (4%). Out of total 100 patients 75 were male and 25 were females.

Table 2: Distribution of patients according to etiology

Etiology	No of patients	Percentage
Alcoholic liver disease	44	44
Hepatitis B	32	32
Hepatitis C	13	13
Unknown	5	5
Alcoholic liver disease + Hep B	6	6
Total	100	100

In our study alcoholic liver disease was most common etiological factor (44%). Hepatitis B infection was seen in 32% and Hepatitis C infection in 13% patients. Six patients showed alcoholic liver disease with hepatitis B infection. Unknown etiology was observed in 6% patients.

Table 3: Distribution of patients according to Child Pugh Score

Child Pugh Score	No of patients	Percentage
A	9	9
B	33	33
C	58	58

According to Child Pugh score, 58% patients were in group A followed by Group B (33%) and Group C (9%).

Table 4: Distribution of patients according to West Haven classification

West Haven classification	No of patients	Percentage
I	20	20
II	12	12
III	32	32
IV	36	36

Majority of the patients were in Grade IV (36%), followed by Grade III (32%). Grade I included 20% patients and Grade II included 12%.

Table 5: Distribution of patients according to Type of hepatic encephalopathy

Type of hepatic encephalopathy	No of patients	Percentage
A	19	19
B	1	1
C	80	80

Our study revealed majority patients were of type C (80%) Hepatic encephalopathy followed by type A (19%).

Discussion

Hepatic encephalopathy is a brain dysfunction caused by liver impairment which manifests as a wide spectrum of neurological or psychiatric abnormalities. [9] It is a dreadful complication of cirrhosis. The risk for the first episode of hepatic encephalopathy is 5–25% within 5 years after the diagnosis of cirrhosis and is greatest in those with decompensated liver disease. [10] Acute hepatic encephalopathy may be precipitated by a number of diverse events, such as infection, gastrointestinal hemorrhage, electrolyte disturbance, alcohol misuse or constipation, although in 50% of instances no obvious cause is identified. [11] Majority of the patients were in the age group of 41–50 years (35%) followed by 31–40 years (24%). Patients were less in the age group below 20 years (4%). Similar findings were seen in Saira Afzal et al [12] (64%), Alam et al [13] (64%). Most commonly affected population was 41–60 years in a study by Bikham Devrajani et al. [14] Out of total 100 patients 75 were male and 25 were females. In our study alcoholic liver disease was most common etiological factor (44%). Hepatitis B infection was seen in 32% and Hepatitis C infection in 13% patients. Six patients showed alcoholic liver disease with hepatitis B infection. HBV was common prevalent factor for hepatic encephalopathy. Study by Mumtaz et al [15] showed Anti HCV was positive in 70% patients. Hepatitis C virus was the commonest of

Cirrhosis by Muhammad Khurram et al. [16] Unknown etiology was observed in 6% patients.

According to Child Pugh score, 58% patients were in group A followed by Group B (33%) and Group C (9%). Similar findings were seen in study by Onyekwere CA et al. [17] Majority of the patients were in Grade IV (36%), followed by Grade III (32%). Grade I included 20% patients and Grade II included 12%. Our study revealed majority patients were of type C (80%) Hepatic encephalopathy followed by type A (19%). Similar findings were seen in Alam et al [13] and Bikha Ram Devrajani et al. [14]

Conclusion

Factors affecting mortality in hepatic encephalopathy were Male sex, alcohol intake, Child-Pugh Class C, Grade III and IV hepatic encephalopathy.

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