



A STUDY OF 50 CASES OF CLINICAL SPECTRUM OF PRECIPITATING FACTORS OF HEPATIC ENCEPHALOPATHY IN CIRRHOSIS OF LIVER.

General Medicine

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KEYWORDS

OBJECTIVES:

To study the clinical profile & clinical course with progression of disease & to analyse the precipitating factors of hepatic encephalopathy.

Methodology:

Fifty admitted patients with liver disease were examined based on history, clinical examinations and laboratory methods including analysis and prognostic stratification through Child's Pugh classification was also carried out. Results: G.I. bleeding (62%), Infection (62%), Constipation (56%) were most common factors. Most were in grade 2 and 3 of hepatic encephalopathy. Other associations were ascites (80%) and hepatomegaly (80%), Child's Pugh class c (50%), non b & c cirrhosis (68%) and Mortality rate (42%). Conclusion: Early detection and diagnosis of these factors helps in starting treatment of this fatal condition hence reducing the mortality.

INTRODUCTION:

Hepatic Encephalopathy (HE) is a complex, potentially reversible neuropsychiatric condition that occurs as a consequence of acute or chronic liver disease¹. It is a well-recognized clinical complication of cirrhosis of liver with the presence and prompt identification of well-defined precipitating factors and is extremely important in diagnosis and treatment of this fatal condition.

Cirrhosis of liver is more common in our day to day clinical practice and in our Sub-continent there is high prevalence of Hepatitis B & C. In the management of patients with H.E., it is important to stage the encephalopathy into four clinical stages and then try to identify and treat the precipitating factors. The neurological deficits, in the presence of the precipitating factors are usually completely reversible upon their correction and the prognosis is better if the precipitant can be treated². The current study aims at studying the clinical profile and the spectrum of precipitating factors of H.E. in cirrhosis of liver; by identifying and initiating the appropriate treatment can bring down the morbidity and mortality. there are very less no. of epidemiological data on H.E. and precipitating factors are available in India, so having a clinical spectrum for the same will pave a path for its starting treatment and mortality reduction.

MATERIAL AND METHOD

Study design: Current study was based on a descriptive cross sectional hospital record.

Study participants and sample size: It consisted of 50 cases of HE admitted to KING GEORGE HOSPITAL, VISAKHAPATNAM.

Study period: The participants were recruited over period of one year i.e from October 2018 to October 2019

Data collection method: After developing the study proforma, the data for the study was obtained by retrospective analysis of hospital records of the patients admitted

Study variables: this being a descriptive study; the primary objective was to study the clinical spectrum of precipitating factors of H.E. A proforma has been designed and used for data collection. A detailed clinical history of patients about fever, upper gastro-intestinal bleeding

(hematemesis and/or melaena), constipation, diarrhoea, and vomiting, high protein diet, any trauma or surgery and paracentesis were taken. Drug history including use of diuretics, sedatives/tranquilizers, NSAID's was also taken into consideration. Apart from checking the past history of previous hospital admissions, all patients were carefully examined for fever, jaundice, dehydration, anaemia, pedal oedema, asterixis, fetor hepaticas and ascites. Hepatic encephalopathy was diagnosed on clinical basis and was graded according to West Haven criteria³. Any evidence for the presence of other co-existent complications of cirrhosis liver was also recorded and Child's Pugh score⁴ assessed for each patient.

Follow up for admitted patients were taken during their stay in hospital and their mortality was also recorded.

Data management and statistical analysis: The data thus collected were entered and analysed in Microsoft office excel. variables considered in the analysis are measured in percentages.

RESULTS & DISCUSSION:

The following section shows the result of 50 patients of hepatic encephalopathy

Table-1: Age And Sex Distribution

Age (Years)	Females	Males
20-40	01 (2%)	17 (34%)
40-60	01 (2%)	24 (48%)
More than 60	02 (4%)	05 (10%)

The demographic indicators collected were age and gender of the patient as per the table. The proportion of male patients in all age group was greater than the female patients.

Table-2 Causes Of Cirrhosis

Cause of Cirrhosis	No. of patients
Alcohol	27 (54%)
Viral hepatitis	16(32%)
Others (non-alcoholic/ non- viral)	07(14%)

Table-2 shows the common cause of cirrhosis which was found to be Alcoholism 54 %. Viral hepatitis was also a worrisome cause with 32% incidence and in 14 % of patients the cause was not known.

Table-3 Presenting Symptoms

Symptoms	No. of cases
Fever	25(50%)
Vomiting	36(72%)
Diarrhea	03(6%)
Constipation	28(56%)
Abdominal Distension	31(62%)
Hematemesis	20(40%)
Melaena	25(50%)
Disorientation	33(66%)
Confusion	30(60%)
Coma	16(32%)

This table shows that the most common mode of presentation was vomiting 72 % and altered sensorium (Disorientation 66 %, confusion 60 % and coma 32 %), followed by abdominal distension 62%,

constipation 56 % and diarrhoea 6%.

Table-4 Presenting Signs

Signs	No. of cases
Dehydration	40(80%)
Pallor	19(38%)
Icterus	34(68%)
Pedal Edema	33(66%)
Clubbing	31(62%)
Asterixis	23(46%)
Fetor hepaticas	03(6%)
Ascites	40(80%)
Splenomegaly	33(66%)

This table shows the commonest presenting sign was dehydration and ascites which was 80%, followed by Icterus 68 %, Pedal Oedema & Splenomegaly 66 %, clubbing 62 %, Asterixis 46%, Pallor 38% and fetor 6%.

Table-5 Precipitating Factors Of He

Precipitating factors	No. of pts.
G.I.Bleeding (hematemesis / melaena)	31 (20/25) (62%)
Infection (TC>10,000)	31(62%)
Constipation	28(56%)
Excess protein	04(8%)
Diuretics intake	13(26%)
Na+ (<135)	13(26%)
K+ (<3.5)	03(6%)

From the table it is clear that G.I.Bleeding (62%) either hematemesis or melaena and infections (62%) followed by constipation (56%) were the most dangerous precipitating factors which developed into hepatic encephalopathy, Diuretics (26%), hyponatremia (26%), hypokalaemia (6%), and protein excess (8%).

Table-6 Child Pugh Score And Mortality

Score	No. of cases	Mortality	(%)
A	09	01	11 %
B	16	05	30 %
C	25	15	59%

This table relates number of patients expired among various classes of Child Pugh scoring system. 60% of the patients expired belongs to class C; only 11% of the expired patients were categorized in class A as compared to 31% patients in class B. So, this clearly indicates that mortality was top most in class C.

Table-7 West Haven Classification And Mortality

West Haven Classification	No. of Cases	Mortality	(%)
I	01	00	00
II	18	03	17
III	16	06	38
IV	15	12	80

Same as that of Child Pugh scoring system as the grade increases, chances of mortality also increases. this is shown in this table as around 80% of the patients who were in grade IV expired as compared to no mortality in grade I. 38% patients who expired belong to grade III. And 17% patients were listed in grade II. So, the prognosis becomes worse as grade of West Haven classification increases.

DISCUSSION

The Maximum patients having age group of 40-60 years were reported in the present study, which was also in resemblance to the study conducted by Saad Maqsood et al⁵. It also showed the similarities in accordance to the other two studies of Adil Mehmood⁶ and Saad Maqsood that mostly male patients having liver cirrhosis proceed to hepatic encephalopathy. Apart from that the increased consumption of alcohol is in accordance to the rise of liver cirrhosis in which 54% of cases had cirrhosis due to alcoholism; supported the study of L. Hameed⁷ 48% and other studies of different authors of western universities.

Child-Pugh score is a very useful scoring system to predict the prognosis of patients with liver cirrhosis. In our study of HE it was

evident that the patient with Child Pugh score C has poorer prognosis and more chances of Hepatic encephalopathy than score A & B.

West Haven system of classification was developed to grade various patient of hepatic encephalopathy according to mental status of the patient. In our study of 50 cases of H.E., Most of patients were classified into Grade 2 and 3 similar to the studies of Khalid⁸, Saad Maqsood and Adil Mehmood.

The clinical spectrum of patients having Hepatic Encephalopathy varies from as small as signs of dehydration to Hepato - splenomegaly. About 80% of the patients of liver cirrhosis having dehydration and ascites went on to develop encephalopathy in later stages of the hospital stay.

Various different symptoms were found during the case study among which majority of the patients were having abdominal distension, vomiting and altered behaviour as major complaints, apart from which hematemesis and constipation were found to be important symptoms among the group studied. the study of L. Hameed correlates equally with our present study about presenting symptoms.

Overall study clearly shows that patients of liver cirrhosis having GI bleeding (62%)and infection as a major precipitating factor compared to others like constipation (56%), Hyponatremia and excess protein intake (8%), hyperkalaemia(6%).

G.I. bleeding and Infections which are the major causes of progression of patients of liver cirrhosis to Hepatic Encephalopathy are also grave signs which help in predicting mortality as more than half of the patients died if they manifested these signs.

CONCLUSION:

In most of the cases there are different factors which play a key role in precipitating hepatic encephalopathy which is a common phenomenon in patients with cirrhosis of liver. Upper GI bleed, infections, diuretics, electrolyte imbalance and constipation were the most common among them. Prompt control of infections, routine upper GI endoscopy and follow up, prevention of constipation by laxatives, judicious use of sedatives and diuretics and proper advice regarding diet must be an integral part of all counselling protocol to cirrhotic patients. Hence the early detection and diagnosis of these precipitating factors helps in Starting treatment of this fatal condition therefore reducing the mortality.

REFERENCES

1. Worobetz LJ. Hepatic encephalopathy. In: omson AR, Shaffer EA, editors. First principles of Gastroenterology. 3rd ed. Toronto: University of Toronto press; 2000. p. 537-39.
2. Alam I, Razaullah, Haider I, Humayun M, Taqweem MA, Nisar M. Spectrum of precipitating factors of hepatic encephalopathy in liver cirrhosis. Pakistan J. Med. Res. 2005; 44(2):96-100.
3. Ferenci P, Lockwood A, Mullen K, Tarter R, Weissenborn K, Blei AT. Hepatic Encephalopathy-Definition, Nomenclature, Diagnosis, and Quantification: Final Report of the Working Party at the 11th World Congresses of Gastroenterology, Vienna, 1998. Hepatology 2002; 35:716-21.
4. Harrison's Manual of Internal Medicine; 19th edition.
5. Maqsood S., Saleem A, Iqbal J., Butt J., Presenting Factors of Hepatic Encephalopathy: Experience at Pakistan Institute of Medical Sciences, Islamabad. Ayub Med Coll 2006: 1814:57-60.
6. Adil Mehmood et al, frequency of encephalopathy in cirrhotic patients presenting with upper gastrointestinal bleeding /Oct- Dec 2012, B.V. Hospital, Bhawalpur, Pakistan.
7. L. Hameed et al: Lagos state University Teaching Hospital Ikosa; Department Of Medicine, General Hospital, Lagos, Nigeria. Nigerian Journal of Clinical Practice Apr-Jun 2011 Vol. 14 Issue 2
8. Khalid Mumtaz et al, The Aga Khan University Hospital, Karachi . Mumtaz, K., Ahmed, U., Abid, S., Baig, N., Hamid, S., Jafri, W. (2010). Precipitating Factors and the Outcome of Hepatic Encephalopathy in Liver Cirrhosis. Journal of the College of Physicians and Surgeons Pakistan, 20(8), 514-518.