

Frequency of Precipitating Factors of Hepatic Encephalopathy in Patients with Chronic Liver Disease (CLD)

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ABSTRACT

Aim: To determine the frequency of precipitating factors of hepatic encephalopathy in patients with chronic liver disease.

Setting: District Headquarter Hospital Sahiwal and Nishtar Hospital Multan.

Duration: March 2013 to February 2014.

Study design: Descriptive cross-sectional.

Sampling technique: Non-probability purposive sampling.

Methods: Fifty patients of hepatic encephalopathy coming to District Headquarter Hospital, Sahiwal and Nishtar Hospital Multan for consultation from March 2013 to February 2014 were registered for this study. The detailed medical history was taken and a specially designed proforma was filled in.

Results: Fifty patients of chronic hepatic encephalopathy were registered for this study. Forty patients were male and 10 were female. The age of patients varied from 30-60 years. Mean age of the study cases was 47.45±5.23 years. Infection was the commonest risk factor noted in 80% of the cases. Spontaneous bacterial peritonitis was seen in 30(60%) patients and 10(20%) had UTI. Other factors were dehydration 18(36%), constipation 16(32%) and GI bleed in 12(24%) of the patients. In 28(56%) of the cases two or more risk factors were operating. In 6(12%) no identifiable risk factor was noted.

Conclusion: Infection, especially spontaneous bacterial peritonitis, is a commonest risk factor for hepatic encephalopathy, in this study, followed by dehydration, constipation and GI bleed.

Keywords: Hepatic encephalopathy, chronic liver disease, Spontaneous bacterial peritonitis.

INTRODUCTION

Hepatic encephalopathy is a spectrum of neuropsychiatric dysfunction as a result of porto-systemic venous shunting with or without intrinsic liver dysfunction¹. It is characterized by intellectual deterioration, behavioral disturbances and characteristic electroencephalogram changes. Hepatic encephalopathy is precipitated by a variety of factors, the most important mentioned are infection especially spontaneous bacterial peritonitis, excessive intake of proteins, constipation, diarrhea, GI bleed, electrolyte disturbances, over diuresis, insertion of TIPS and intake of certain drugs/alcohol^{1,2,3,4,5,6}.

These factors are reversible if identified early hence detailed knowledge of these precipitating factors is essential for the better management of these patients, so present research study was designed to see the frequency of various factors involved in the precipitation of hepatic encephalopathy in patients with underlying CLD.

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MATERIAL AND METHODS

Fifty patients of hepatic encephalopathy coming to District Headquarter Hospital, Sahiwal and Nishtar Hospital Multan for consultation from March 2013 to February 2014 were registered for this study. Informed consent for participation in the study was taken from the attendants. It was a descriptive cross-sectional study and non-probability purposive sampling technique was used for data collection. The detailed medical history was taken and a specially designed proforma was filled in. The data were entered in SPSS-11 and analyzed.

RESULTS

Fifty patients of chronic hepatic encephalopathy were registered for this study. Forty patients were male and 10 were female. The age of patients varied from 30-60 years. Mean age of the study cases was 47.45±5.23 years. Infection was the commonest risk factor noted in 80% of the cases. Spontaneous bacterial peritonitis was seen in 30(60%) patients and 10(20%) had UTI. Other factors were dehydration 18 (36%), constipation 16(32%) and GI bleed in 12 (24%) of the patients. In 28(56%) of the cases two or more risk factors were operating. In 6(12%) no identifiable risk factor was noted.

DISCUSSION

Hepatic encephalopathy is the sequelae of chronic liver disease. It directly co-relates with the severity of liver disease. The patients of chronic liver disease are prone to get infection due to many reasons especially decreased immunity, poor rediculo-endothelial function and migration of gut bacteria to extra-intestinal sites & systemic circulation (Bacterial Translocation)⁷. Infection was noted in 80% of the cases in this study. Spontaneous bacterial peritonitis was commonest infection seen in these patients. It occurs in absence of any contiguous infection like intra-abdominal abscess/intestinal perforation and in the absence of any intra-abdominal infective focus e.g. liver abscess, acute pancreatitis and acute cholecystitis. Increased gut bacterial translocation and decreased opsonic activity of ascitic fluid are responsible for bacterial colonization of ascitic fluid. Spontaneous bacterial peritonitis was noted in 60% and UTI was precipitating factor in 20% of the cases. Infection (44%) has been reported as commonest precipitating factor in a study by Maqsood et al⁸.

Ayesha et al⁹ and Devrajani et al¹⁰ from India have reported as 52 % and 67% respectively which is close to our study. However infection has not been reported as major risk factor by Mumtaz et al¹¹ and Blei et al¹² possibly due to better hygienic conditions and good nutritional status in their patients and society as a whole. Dehydration is also an important risk factor. These patients don't come for regular follow up and hence once diuretic prescribed they continue to take without any judicious use. So these patients get dehydrated due to over zealouse and self adjusted over dosage of diuretics. Poor intake of food and strict dietary restrictions especially water, diarrhea, excessive use of lactulose and vomiting also add to the dehydration. Patients with severe ascites may also have intravascular volume depletion and dehydration. Dehydration was seen in 36% of the cases in present study. Constipation is another risk factor for hepatic encephalopathy. It can precipitate encephalopathy due to excessive production and absorption of ammonia from the gut. It was seen in 32% of the cases while this has been reported as 38% by Maqsood et al⁸ and 30% by Tariq et al¹³. Both these studies are in consonance with the findings of our study. Patients with chronic liver disease are prone to develop GI bleed because these patients have varices due to portal hypertension and these have also coagulopathy and thrombocytopenia. These patients also have increased tendency for peptic ulcerations. Duodenal ulcers are more common as these patients have high prevalence of helicobacter pylori infection¹⁴. All these can lead to overt or occult intestinal bleeding. The blood in the intestine becomes rich source of protein and results

in increased production of ammonia leading to hepatic encephalopathy. GI bleed as a risk factor was noted in 24% of our study cases while a study by Maqsood et al⁸ has reported it in 38% of the cases and similar observations have been given in other studies^{15,16}. However high frequencies (45% and 57%) of GI bleed have been reported by Devrajani et al¹⁰ and Antony et al¹⁷ respectively. In 56 % of our study cases, two or more than 2 risk factors were responsible for hepatic encephalopathy and no risk factor was identifiable in 12% of the cases.

CONCLUSION

Infection, especially spontaneous bacterial peritonitis, is a commonest risk factor for hepatic encephalopathy, in this study, followed by dehydration, constipation and GI bleed.

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