

AGGRAVATING FACTORS OF HEPATIC ENCEPHALOPATHY IN PATIENTS WITH CHRONIC LIVER DISEASE: OUR EXPERIENCE AT TEACHING HOSPITAL IN SOUTHERN PUNJAB, PAKISTAN

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ABSTRACT

Background: Multiple aggravating factors can complicate a case of chronic liver disease, leading to hepatic encephalopathy. **Objective:** To enlist aggravating factors of hepatic encephalopathy in patients with chronic liver disease. **Methodology:** This cross sectional study was carried out at Sheikh Zayed Hospital Rahim Yar Khan, from 1st April to 31st December 2016. Convenient sampling technique was used in this study and 50 patients with hepatic encephalopathy who came for consultation included in this study. The detailed medical history was asked to fill in specially designed forms. **Results:** 50 patients with hepatic encephalopathy were included in this study. 35 (70%) were men and 15 (30%) women. The patient's age ranged from 35-65 years. Mean age of the study subjects was 46.45 ± 5 years. The most common aggravating factor was infection in 42 (85%) of cases; Spontaneous bacterial peritonitis (SBP) in 33(65%) and 9 (19%) patients with urinary tract infections (UTI). Other causes were dehydration 19(37%), constipation 15 (30%) and 13 (26%) patients with gastrointestinal bleeding. Two or more risk factors were present among 29 (58%). **Conclusion:** Infection, especially spontaneous bacterial peritonitis, is a commonest aggravating factor of hepatic encephalopathy; followed by dehydration, constipation and gastrointestinal bleeding in this study. **Keywords:** Hepatic encephalopathy, Chronic liver disease, Spontaneous bacterial peritonitis, Aggravating factors.

INTRODUCTION

Chronic Liver disease (CLD) is one of the major cause of morbidity and mortality, especially in developing world. Hepatic encephalopathy (HE) being a disorder of the Porto systemic venous shunt, may be present with or without intrinsic liver abnormalities.¹ It is described by mental disturbance, change in one's behavior and specified changes on ECG.

Hepatic encephalopathy aggravation may be caused by infections, mass protein intake, constipation, diarrhea, gastrointestinal bleeding, electrolyte imbalance, diuresis, prompt insertion and ingestion certain medications / alcohol.³⁻⁶

All these factors are reversible if identified earlier and is necessary for better management in these patients. This cross sectional study was carried out to enlist the aggravating factors for encephalopathy in patients with Chronic Liver Disease.

METHODOLOGY

This cross sectional study was carried out at Sheikh Zayed Medical College/Hospital Rahim Yar Khan, from 1st April to 31st December 2016. Convenient sampling technique was used in this

study and 50 patients with hepatic encephalopathy were included in this study. The detailed medical history was asked to fill in pre designed proforma. The questionnaire included information on demographic factors, aggravating factors like infections, dehydration, constipation and GI bleeding. Ethical approval was sought from Institutional Review Board, of Sheikh Zayed Medical College/Hospital, Rahim Yar Khan before starting study. The data entered in SPSS 21 and then analyzed.

RESULTS

50 patients with hepatic encephalopathy were included in this study. 35 (70%) were men and 15 (30%) women. The patient's age ranged from 35-65 years. Mean age of the study subjects was 46.45 ± 5 years. Infection was the most common aggravating in factor, 42 (85%) of cases; Spontaneous bacterial peritonitis (SBP) was present in 33(65%) and 9 (19%) patients with urinary tract infections (UTI). Other causes were dehydration 19(37%), constipation 15 (30%) and 13 (26%) patients with gastrointestinal bleeding. Two or more risk factors were present among 29 (58%). (Figure I)

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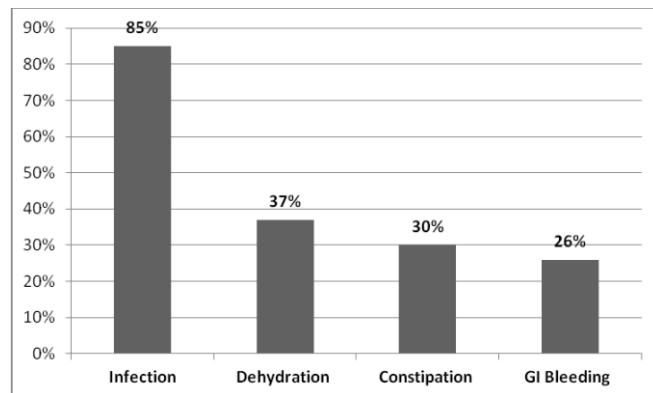
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Figure I: Frequency of aggravating factors of HE

DISCUSSION

Hepatic encephalopathy is CLD sequel. Patients having CLD are more susceptible to many bacterial infections in the intestinal tract, especially due to reduced immunity, rediculo-endothelial dysfunction and migration to the parenteral site of the systemic circulation.⁷ In 80% of cases the infection was noted as aggravating factor. The most common infection seen in these patients was Spontaneous Bacterial Peritonitis (SBP). It occurs in the absence of any unbroken infection, such as abdominal abscess, leakage of intestine, and nonexistence of any intra-abdominal infections like cholelithiasis, liver abscess, acute pancreatitis, and acute cholecystitis. Increased intestinal bacterial translocation and reduced conditioning activity are responsible for ascites colonization of ascites bacteria. Spontaneous bacterial peritonitis was seen in 65% of cases and 19% in urinary tract infections. A study showed SBP among 44% as trigger factor.⁸

Aisha et al⁹ and Devrajani et al¹⁰ reported from India that 52% and 67% has SBP respectively similar to our study close to our study. Finding by a study of Mumtaz et¹¹ & Blaine et al¹² al showed infection is not a foremost factor this was probably due to a good sanitation conditions with good nutritional prestige in their patients and in whole community. Dehydration was important risk factor as these patients not come back for follow-up frequently so once the diuretic prescribed they continue to take without any further advice. So these patients dehydrate due to the diuretic in the eager and self-adjusting dose. Poor food intake, diet limitations specially water, diarrhea, vomiting and excessive use of lactulose especially will also be added to the dehydration. Patients with ascites

may also have intravascular volume depletion and dehydration. Dehydration was 37% of the cases seen in this study. Constipation was one more hazard for hepatic encephalopathy. It can aggravate encephalopathy overgrowth and absorption of ammonia from the gut.

Constipation was present in 30% of cases and similar findings 38% were reported by Maqsood et al⁸ and 30% by Tarik et al.¹³ Both studies were consistent in our results. Patients having CLD are at the risk of gastrointestinal bleed, because such patients have portal hypertension varices of veins, which also have blood clotting anomaly and thrombocytopenia. These patients also had an increased trend for peptic ulcer. Duodenal ulcer is common in these patients due to high tendency of infection by H.Pylori.¹⁴ All of these can cause dominant or recurrent intestinal bleeding. In the small intestine the blood becomes rich in protein and results the increased production of ammonia leads to hepatic encephalopathy. Risk factors for gastrointestinal bleeding were noted in 26% study subjects in our study while 38% by Maqsood et al⁸ similar views were given in other studies.^{15,16} However, high frequency (45% and 57%) gastrointestinal bleeding was reported by Devrajani et al¹⁰ and Antony et al¹⁷ respectively. In 58% our study subjects were identified with two or more risk factors for hepatic encephalopathy.

CONCLUSION

Our study showed infection, especially spontaneous bacterial peritonitis, as a foremost causing factor of hepatic encephalopathy; followed by dehydration, constipation and gastrointestinal bleeding.

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