ORIGINAL ARTICLE

Common Causes of Hepatic Encephalopathy at Govt. Teaching Hospital Shahdara

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ABSTRACT

Aim: To see the common aggravating factors of hepatic encephalopathy in Govt Teaching Hospital Shahdara,
Background: Hepatic encephalopathy is very common complication of decompensated liver disease and is a syndrome with neurological and psychiatric symptoms, which may be precipitated by constipation, upper GI bleed, infection, use of sedatives, recent paracentitis, electrolyte imbalance, acute viral hepatitis over CLD.
Study design: It is a cross sectional observational study.
Method: First 100 patients with hepatic encephalopathy after taking consent were included in the study. While diseases causing similar symptoms like stroke, meningoencephalitis, brain tumor or head trauma were excluded**.**
Results: Out of 100 patients, 92 were males, and 8 were females. Their mean age was 41 with age range of 35+_12 years. In 97% patient's hepatitis c was the culprit agent. While in 3% hepatitis B and C both were involved. We found out the aggravating factors of hepatic encephalopathy by taking proper history and excluded the similar diseases by appropriate investigation like CT brain and Lumber puncture etc. In 82% patients, we found combination of constipation and acute viral insult over chronic liver disease.11% cases were identified to have spontaneous bacterial peritonitis as main factor of hepatic encephalopathy, 3% cases were with constipation alone, while 2% were having upper GI bleed as causative agent. While 2% died without any identifiable factor.
Conclusion: Most of patients with hepatic encephalopathy were those in which there were more than one factors i.e. constipation and acute viral insult, then SBP, constipation, and upper GI bleed in descending order in GTHS. So perhaps by taking vaccination against hepatitis A and hepatitis B and preventing constipation and prophylactic endoscopy and banding may prevent hepatic encephalopathy at GTHS. All the common factors are preventable by proper awareness programs, and a hepatitis clinic will be very effective in reducing the incidence of hepatic encephalopathy by creating awareness amongst people, which is unfortunately lacking at GTHS.
Keywords: GI bleed, hepatic encephalopathy, meningoencephalitis

INTRODUCTION

Chronic liver disease is one of the leading cause of mortality and morbidity specially in our country[1,2,3]. .Hepatic encephalopathy is one of the common complication (70%) of decompensated liver disease[4,5]. The common cause of chronic liver disease is hepatitis c and hepatitis B, with prevalence of 10%of hepatitis B in Asia-pacific population and 4 to 12% in case of hepatitis c[5,6]. Hepatic encephalopathy is a neuropsychiatric syndrome in patients of decompensated liver disease in absence of other neurological disorders[7]. Mortality due to hepatic coma is pretty high i.e.30%.(8).Hepatic coma may also occur in acute liver failure or in decompensated chronic liver disease due to impaired liver function of detoxification of poisonous materials formed in body in various processes. Prolonged portosystemic shunting, which occur because of shrunken liver tissue in turn cause portal hypertension[9]. When these toxins are not detoxified in liver ,they cross the blood brain barrier especially ammonia[10,11,12,13] and branched chain amino acid, manganese, monoamines and some endogenous opiates cause some specific neuro-psychiatric symptoms[14,15]. Survival rates in hepatic encephalopathy due to chronic liver disease is far better than in hepatic encephalopathy due to acute hepatic failure .i.e., (100%vs 70%)[16]. Survival can be further improved ,if we identify certain factors ,which trigger this syndrome[17]. They include blood transfusions, (20g proteins per 100 cc of blood),excessive protein intake, upper GI bleed, spontaneous bacterial peritonitis, large amount paracentesis,septicemia,constipation,infections,sedatives,electrolyte imbalance etc[18,19,20,12]. .Luckily all these factors are completely reversible and preventable[22]. The most important factor which doctors should consider in treatment is to identify these trigger factors and to correct them .In western world alcoholism is perhaps most prevalent factor, but since we want to see in our local community, which factor is most common, so that we can give awareness to our patients as well as our junior doctors in treating hepatic encephalopathy, therefore we conducted a local study at GTHS for the better prognosis of this serious complication.

METHODOLOGY

A cross sectional observational study was conducted at GTHS. First 100 patients with hepatic encephalopathy with chronic decompensated liver disease after taking consent from their first-degree relatives were included in study. They were either taken from outpatient department or

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emergency. They included both males and females. They were diagnosed to have hepatic encephalopathy by proper history and investigations like abdominal USG, viral markers, CT scan brain, previous endoscopy reports. Inclusion criteria were (1): patients of adult age 18yrs or > of both genders with chronic liver disease and altered sensorium. We also ruled out or excluded other similarnon-hepatic diseases by history and appropriate investigations like CT brain,lumber puncture and we also excluded patients of acute fulminant hepatic encephalopathy by short history and absence of stigmata of chronic liver disease on examination and abdominal USG. Once patient was confirmed to have hepatic coma due to chronic decompensated liver disease, they or their relatives were further interrogated regarding the likely and reversible cause like history of recent constipation, upper GI bleed, use of sedative or alcohol, any abdominal pain with tenderness, any evidence of infection like fever, cough, burning micturition, history of recent large amount (>4L at one time) paracentesis, conditions leading to impaired electrolyte balance like vomiting or diarrhea or excessive intake of proteins (>1g/Kg).Various investigations were also carried out to confirm the aggravating factors ,like serum electrolyte, urine complete examination ,Complete blood count to see raised leukocyte count(indirect evidence of infection),fasting and post parendial blood sugar levels(sometimes hyper or hypoglycemia comes in close differentials of hepatic coma)and chest X-Ray and diagnostic tap to rule out any systemic or peritoneal infection. And of course, LFTs to check any acute viral insult.

All patients were closely followed during their hospital stay after giving them treatment according to their cause and were seen for the reversal or any improvement in symptoms.

RESULTS

Out of 100 patients, 92 were males and 8 were females. Their mean age was 41 years with minimum age of 35years and maximum age of 47 years.Hepatitis C was present in 97% patients, while in 3% patients both hepatitis B and C were present It was observed that mostly patients who presented in wards were with combination of 2 trigger factors like 82% presented with constipation (2 days since last stool have passed) and acute viral hepatitis (manifested by raised LFTS). 7% were with infection(as evident by raised TLC, or pus in urine or patch on X-Ray or with neutrophilia in diagnostic tap) with constipation.4% with SBP alone.3% with constipation alone and 2% with upper GI Bleed. While unfortunately 2% patients died without any identifiable causes. It has been further observed that the patients with combination of factors presented with higher grades of hepatic encephalopathy like out of 82 patients with constipation plus acute viral insult 71(86%) presented with grade 3 or 4.While 14(17%) were in grade 1 or 2.Similarly in patients with constipation and infection 5 (71%) were either in grade 3 or 4 encephalopathy. While 2 (28.57%) were in milder grade. Overall mortality was also higher in patients with 2 factors i.e.so out of 89 patients ,18 died (20%) vs 1 (11%) out of 9.We could not find blood transfusions, large amount paracentesis, sedative, surgery as precipitating factor in our patients at GTHS.

DISCUSSION

Hepatic encephalopathy is a very common problem now a day especially in the region of Shahdara. Usually we are able to identify the aggravating factors. Most cases in Shahdara were having hepatitis C as a culprit agent. This was similar to the study of Fakhar Ali Sahir[23] et al, which showed 133(86.6%) patients were having hepatitis C, in comparison to 92% of hepatitis c patients in our study, which was even higher. It makes us aware that how common and dangerous this problem has become in our local community. Another study conducted at AKU by Khalid Mumtaz et al had similar results, which showed 70% patients of hepatic encephalopathy were having hepatitis c[24]. This was in contrast to an international study, conducted by Kevin Charles Raphel et al, in which alcoholic cirrhosis was most common[25]. In the study cited above, excessive diuretic therapy (27.2%) was the most common precipitating factor of chronic hepatic encephalopathy. Then was blood transfusion (21.1%) and least common was upper GI bleed (17.6%) in comparison to our study where 82% were having combination of constipation and acute infection, followed by SBP 4%, constipation 3%, and 2% with upper GI bleed, while 2% died without unidentified reasons.

In a local study carried out by Saad Masood et al, GI bleed and constipation were equally common i.e. 38%, while most frequent was infection (44%), and 12% patients were having hypokalemia and 12% were taking excessive protein diet[26]. Another study at Military Hospital Rawalpindi showed the following findings. Constipation (42.7%), GI bleed in (37.3%), infection in12%, use of sedatives in 2.7%, surgery 2.7%, hypokalemia and excess protein diet in 1.3 cases[27]. So it can be obviously seen that prevalence of various contributing factors is quite variable in different areas, and we need to note their prevalence, so that we can properly manage them.

CONCLUSION

So firstly, it can be concluded that in our local community combination of the factors (constipation and infection) is most common. So, we should not get satisfied by finding only one factor. We should be vigilant enough to find other factors too and then managing them and further improving the prognosis. Secondly, it also indicates that all these factors are reversible and preventable and proper awareness programs can result in a drastic improvement in survival of such patients like preventing constipation by regular use of laxative (lactulose) and proper vaccinations against hepatitis A and B and taking prophylaxis is of SBP,

and undergoing diagnostic endoscopies to prevent variceal bleeds. In this respect hepatitis clinics can play key roles. Thirdly, such studies are required to be conducted on bigger scale for further betterment in prognosis of such large number of patients.

REFRENCES

1. Umar M,Kharr HTB,Khurram M,et al,AntiHCV antibody positivity of various sections of Pakistani population.J Col PhySurg Pak 2009;19:737-41.
2. Sheikh A,Ahmed SI,Naseemullah M.Aetiology of hepatic encephalopathy and importance of upper GI bleeding and infections as precipitating factors .JRawal Med Coll.2001;5:10-12.
3. Ahmed H ,RehmanM,SaeediMI,ShahD.Factors precipitating hepatic encephalopathy in cirrhosis liver.J Postgrad Med Inst.2001;151:91-7.
4. Gilberstadt SJ,Gilberstadt H,et al.Psychomotor performance defects in cirrhotic patients without overt encephalopathy.Arch Intern Med 1980; 140:519-21
5. itlin N,Lewis DC et al,The diagnosis and prevalence of subclinical hepatic encephalopathy in apparently healthy and ambulant,non shunted patients with cirrhosis.JHepatol 1986;3:75-82.
6. Almani AS,Memon MS et al.Cirrhosis of liver ,etiologicalfactors,complications and prognosis.JLiaqatUni Med Health2008;7(2):61-66.
7. Chen DS ,Public Health measures to control hepatitis B Virus infection in developing countries of Asia –Pacific Region.JGastroenterolHepatol 2000;15:E7-10
8. Ferenci P.Hepatic encephalopathy.In:Haubrich WS,Shaffner F,Berk JE editors.Gastroenterology 5 th edition Philadelphia:WB Saunders;1995.1988-2003.
9. Butterworth RF.The neurobiology of hepatic encephalopathy.Semin liver Dis1996;16:235-44.
10. Watanabe A.Porto systemic encephalopathy in non cirrhotic patients.J Gastroenterol Hepatol.2000;15;969.
11. Shiekh A,Ahmad SI et al.Aetiology of hepatic encephalopathy and importance of upper GI bleeding and infection as precipitating factors.J Rawal Med Coll.2001;5:10-12.
12. Maqsood S,Saleem A et al,precipitating factors of hepatic encephalopathy,Experience at Pakistan instituite of medical sciences Islamabad.JAyub Med Coll Abbotabad2006;18:58-62.
13. Alam I RazaullahHaider et al,Spectrum of precipitating factors of hepatic encephalopathy in liver cirrhosis.Pak J Med Res.2005;44:96-100.
14. Bustamente et al.Prognostic significance of hepatic encephalopathy in patients with cirrhosis.J Hepatol1999;30:890-5.
15. Conn HO .Quantifying the severity of hepatic encephalopathy.In Conn HO,Bricher J editors.Hepatic encephalopathy syndromes and therapists.WestLancing,MI:Medi-ed press;1993.p.13.
16. Faloon WW,Evans GL,Precipitating factors in genesis of hepatic coma.NY state J Med.1970;70:2891-6.
17. Sherlock S,Dooley J et al,Hepatic encephalopathy.In:Disease of liver and biliary system.11th edition.London:Blackwell science;2002-93.
18. Lizardi Carvera J et al,Hepatic encephalopathy :Areview.Ann Hepatol.2003;2(3):122-30.
19. Bianchi GP,Marchesni G,et al,vegetable vs animal protein diet in cirrhotic patients with chronic encephalopathy.A randomized cross over comparison,JInt Med 1993;233:385-92.
20. Abrams GA,Fallon MB et al,Cirrhosis of liver and its complications in:Andreoli TE,Bennett JC,Carpenter CJ,Plum F.editors.Cecil essentials of medicine.5thedition.Philadelphia:WB Saunders;2001.p.340-5.
21. Assy N ,RosserBG,etal,Risk of sedation for upper GI endoscopy exacerbating hepatic encephalopathy in patients with cirrhosis.Gastrointes Endos 1999;49:690-4.
22. Pomier-Layargues G.TIPS and hepatic encephalopathy.Semin Liver Dis 1996;16:315-20.
23. Lockwood AH,Early detection of hepatic encephalopathy.Neurology 1998;6:663-6.
24. Fakhar Qazi,Shameem Behram Khan et al, Hepatic encephalopathy in chronic liver disease: Predisposing factors in developing country. Department of Medicine , Gastroenterologydepartment, Asian Journal of Medical Sciences.2014;6(2):35-42.
25. Mumtaz K ,Ahmad U et al,Precipatating factors and outcome of hepatic encephalopathy in liver cirrhosis.Journal of college of physician and Surgeon Pakistan;20,20(8),514-18.
26. Raphael KC et al.Prevalence and precipitating factors and challenges of management in a resource limited setting-J Gastrointest Digest Syst 6:Gastrointest Dig Syst 6:441.doi:10.4172/2161-069X.1000441.
27. Saad Maqsood,AmerSaleem et al,Precipitating factors of hepatic encephalopathy ;An experience at instituite of pak med sciences: J Ayub Medcoll Abbotabad 2006;18(4).