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Research Paper

Study of 100 Patients Presenting with Hepatic Encephalopathy with Special Reference to Etiology and Outcome

Medical Science

KEYWORDS :

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ABSTRACT

Introduction:

Hepatic encephalopathy is a complex, potentially reversible neuropsychiatric abnormality resulting from acute or chronic liver failure .It is characterized by change in personality, consciousness, behavior and neuromuscular function.It is a disease with poor outcome and having high mortality.

Method:

Prospective and observational study of 100 patients with Age >13 years presenting with clinical symptom and signs of hepatic encephalopathy.Various signs and symptom, necessary lab investigation and neuroimaging was done.Patient were followed during this hospital stay and outcome was noted.

Result:

Most common age group affected was 41-60 year with male:female ratio of 2.1:1.Most common presenting symptom was altered sensation and yellow discoloration of sclera followed by fever, ascites,hematemesis and melena. 68% had chronic liver disease.Higher mortality is seen in female. Mean duration of hospital stay was 6 day with 48% survival.

Conclusion:

We conclude that HE is a fatal condition. Fulminant hepatitis E accounted for higher mortality in females while alcoholic cirrhosis resulted in high mortality in males.

INTRODUCTION:

Hepatic Encephalopathy(HE) is defined as a spectrum of neuropsychiatric abnormalities in patient with liver dysfunction, after exclusion of other known brain diseases[1]. It is a potentially reversible condition[2]. Its spectrum ranges from minimal hepatic encephalopathy without recognisable clinical symptoms or signs to overt hepatic encephalopathy with risk of cerebral edema and death[3]. It is characterized by changes of personality, consciousness, behaviour, and neuromuscular function. It may arise spontaneously but more commonly will develop as a result of some precipitating factor in the course of acute or chronic liver disease[4]. The burden of disease for cirrhosis is increasing, especially with regard to the rise in the number of patients with hepatitis C and E or non alcoholic steatohepatitis. For this reason, recognition of the complications of cirrhosis(including HE) and the need for improved management of patients affected by this disease is imperative[5]. It has a substantial negative effect on quality of life, even in patients with minimal disease[6]. Apart from these negative effects on quality of life and daily functioning, patients with HE also have increased mortality[6]. With increased awareness and improved diagnostic methods, the burden of HE is likely to attain epidemic proportions. Multiple treatments have been used for HE. However, their efficacy has been infrequently assessed by well-designed randomized clinical trials. Despite these limitations, a critical appraisal of available data renders it possible to delineate a rational approach to the HE. We have studied various aetiologies and the end result so as to gain more awareness about the disorder which may aid in early identification and prevention of mortality in future.

MATERIALS AND METHODS:

This observational study was conducted on 100 patients of HE admitted to Civil Hospital Ahmedabad between 1st May 2012 to 30th April 2013. Informed written consent was taken from each patient. Patients aged more than 13 years, presenting with clinical symptoms and signs of HE and having acute or chronic liver disease were included in study.

Details of the clinical history including symptoms like fever, gastro-intestinal bleeding (hematemesis and/or melena), constipation, diarrhea, vomiting, any trauma or surgery; drug history regarding use of diuretics, sedatives, NSAID and past history were recorded.

Thorough physical examination for vital signs, fever, jaundice, dehydration, anemia, edema, asterixis, level of consciousness, hepatosplenomegaly and ascites was done and the details were noted. All patients were given supportive symptomatic treatment and specific treatment for hepatic encephalopathy, coagulopathy and renal failure as and when required. Patients were followed for their duration of stay in the hospital and outcomes were analysed.

Statistical analysis was performed by using SPSS 14.3 which involves paired and unpaired t-tests. Mean value and ±SD were calculated for each group and compared with other studies. P value <0.05 were taken as a point of minimal statistical significance[7].

RESULTS:

As shown in table 1, most common age group affected was 41-60 years and mean age of 44.67±4 years. 68% of the patients were male and 32% were female patients. The male:female ra-

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tio observed was 2.1:1. In the younger age group(21-40years), females were affected more compared to males.

As depicted in figure 1, yellow discoloration of urine and sclera was reported in all the patients. Altered behaviour was seen in all the patients since it is *sine qua non* for a clinical diagnosis of hepatic encephalopathy. Fever was the next most common presenting complaint seen in 58% of patients; followed by abdominal distension(56%), vomiting(52%), hematemesis(48%), malena(48%), diarrhea(32%) and constipation(28%). Fever was more frequently reported in females while hemetemesis, malena and abdominal distension occurred more frequently in males.

In our study (as shown in table-2), 32% patients had acute liver disease and 68% had chronic liver disease. In patients who presented with chronic liver disease, alcoholic cirrhosis(48%) and post necrotic cirrhosis (post hepatitis B &C)(18%) were found to be the etiologic causes, while fulminant hepatitis E(24%) and fulminant hepatitis B(10%) were found to be the causative factors in patients with acute liver disease and HE. Females had a statistically significant higher prevalence of fulminant hepatitis E as compared to males in the present study($p<0.0001$). Males had a much higher prevalence of alcoholic cirrhosis.

As shown in figure-2, overall mortality was 52%. Mortality in males was 44.1% while in females was 68.75%**.** The highest case-fatality rate was seen in fulminant hepatitis E(66.6%) and majority of these patients were females, which was statistically significant($p<0.05$). This was followed by fulminant hepatitis B(60%), alcoholic cirrhosis(46%) and postnecrotic cirrhosis(38.8%).

DISCUSSION:

In our study more males presented with HE compared to females. All the patients presented with altered sensorium and yellow discoloration of urine and sclera. Other common presenting symptoms were fever(58%), abdominal distension(56%), vomiting(52%), hematemesis(48%), malena(48%), diarrhea(32%) and constipation(28%). Fever was the common presenting complaint in females who presented with fulminant hepatitis E while abdominal distension, hematemesis and malena were the common presenting symptoms in males with chronic liver disease, which were also the precipitating factors of HE. A total of 52% of patients expired. Fulminant hepatitis E in females accounted for a higher mortality(66.6%) compared to males. Overall mortality in present study was comparable to that in the study of Onykwere*etal*[8], Garg*et al*[9] and al Giandan*et al*[10](figure-3). The duration of hospital stay ranged from 0 to 10 days with mean of 6 days.

CONCLUSION

We conclude that HE is associated with a high mortality. Fulminant hepatitis E accounted for higher mortality in females while alcoholic cirrhosis resulted in high mortality in males. Thus HE poses a huge drain on financial and human resources combined with a rather unsatisfactory outcome profile. Therefore early detection, prompt management and preventive measure should form the mainstay of approach. Recognization of minimal HE with the aid of psychometric tools is one of the changing paradigms of chronic liver disease biology which can help in detection and early intervention in the downhill spiralling course of disease progression which eventually spell an impending doom.

Table 1:DEMOGRAPHIC PROFILE

AGE(YEARS)	MALE	FEMALE	TOTAL
≤20	2(3%)	6(18.8%)	8(8%)
21-40	4(5.9%)	20(62.5%)	24 (24%)
41-60	56(82.3%)	2(6.2%)	58 (58%)
>60	6(8.8%)	4(12.5%)	10(10%)
TOTAL	68	32	100 (100%)

Table 2: OUTCOME IN RELATION TO THE ETIOLOGY OF HEPATIC ENCEPHALOPATHY

ETIOLOGY	NO OF PATIENTS		MORTALITY		
	MALES	FEMALES	MALES	FEMALES	TOTAL (%)
Alcoholic cirrhosis	48	0	23(73.3%)	0	23(47.9%)
Postnecrotic cirrhosis	12	6	3(13.3%)	4(18.2%)	7(38.8%)
Fulminant hepatitis B	4	6	2(6.7%)	4(18.2%)	6(60%)
Fulminant hepatitis E	4	20	2(6.7%)	14(63.6%)	16(66.6%)
	100		30	22	52(52%)

FIGURE 1.DISTRIBUTION OF SYMPTOMS ON PRESENTATION

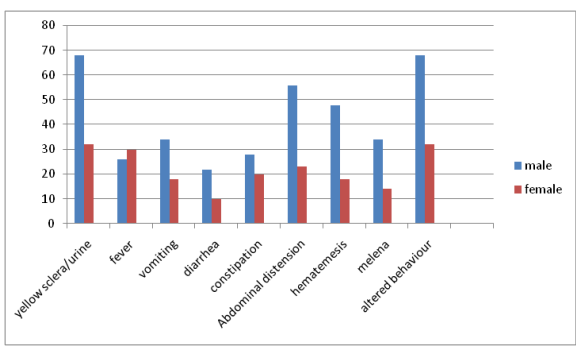


FIGURE2: OUTCOME OF HEPATIC ENCEPHALOPATHY

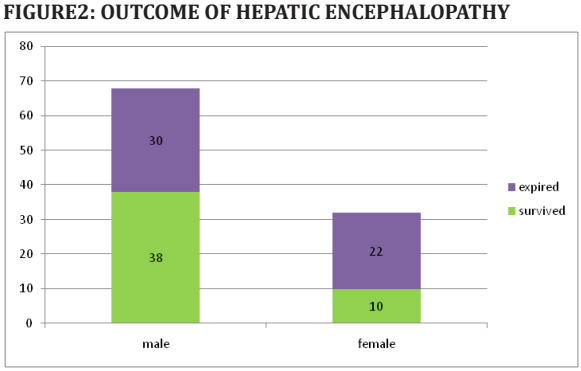
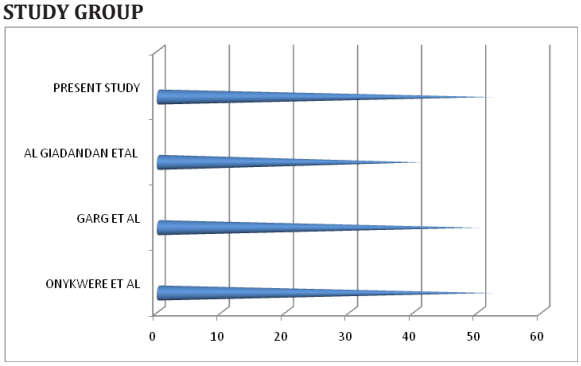


FIGURE 3: OVERALL MORTALITY COMPARISON IN VARIOUS STUDY GROUP



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