ORIGINAL **PROF-714**

THE JOB IS NOT YET OVER;

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ABSTRACT

Cirrhosis of liver is a chronic disease. Chronic dysfunction of liver disturbs different body functions and metabolic pathways. As cases of chronic liver disease are on the increase[6], a multi-disciplinary approach is needed for the welfare of the patients. Usually the discharge slips of the admitted patients are prepared by the junior doctors who just write the medicines without proper explanation and guidance about the adjustment of dosage in different circumstances. The aim of the present study is to highlight the importance of the knowledge of the patient about their disease and its expected complications. It is prospective hospital based case study. One hundred patients of cirrhosis of liver were included in the study. The patients were admitted in North Medical Ward of Mayo Hospital, Lahore during February 2002 to February 2003, a questionnaire was prepared and the required information was obtained from the patient/attendant and was recorded in the proforma. The patients are not having much information about the amount of salt to be taken. No clear idea about water intake, protein intake and daily caloric intake. They are not aware of modifying or adjusting the dosage of different drugs. Many complications are avoidable. It is a chronic process. The patient's education is a must to improve quality of life, to decrease number of hospital admissions and to lessen the misery of rest of the family due to repeated admissions.

Key Words: Liver cirrhosis, education, management.

INTRODUCTION

Liver cirrhosis is associated with a spectrum of characteristic clinical features and loss of functioning hepatocellular mass eventually leading to liver insufficiency. It may cause jaundice, edema, coagulopathy and a variety of metabolic abnormalities. Complications of liver cirrhosis may not be directly life threatening but cause impairment of quality of life. For example jaundice causes abnormal appearance and social eviction, pruritus causes behavioral disturbance, sleep deprivation, skin lesions and skin infection. Similarly ascites causes body deformation and impaired motility, impaired digestion, decreased lung capacity, fullness after meals, early satiety, oesophageal reflux, pain and discomfort due to abdominal wall stretching. Certain complications may be directly life threatening like portal hypertension which causes variceal or ulcer bleeding, porto systemic shunts causing metabolic skip and encephalopathy. Hepatopulmonary shunts cause pulmonary hypertension, hypoxia and sudden death.

Liver insufficiency causes hypoglycemia, hyperglycemia, acid-base disturbance, electrolyte imbalance. Due to wide spectrum of manifestations and complications different patients present differently. In some patients resistant ascites may be the dominant complaint while the others may give history of recurrent hematemesis and rrlalena. As the disease progresses it requires long term medical supervision and careful management. The role of the physician is to anticipate these complications and try to avoid these.

Pick the early cases and do the needful. Early management avoids a lot of discomfort and expenditure. It should be realized that conventional treatment is supportive as cure is not possible. What you can do is to avoid further harm to the bad liver.

PATIENTS & METHODS

This is a prospective, hospital based study. One hundred consecutive patients of chronic liver disease admitted in North Medical Ward, Mayo Hospital, Lahore during the period from Feb 2002 to Feb 2003 were included in the study.

All the subjects were asked to complete a questionnaire. In case of unconscious patients the required information was taken from their attendants or from the patient after recovery from coma. The following points were noted down.

Name, age, sex, duration of disease, cause of chronic liver dysfunction, purpose of admission, number of previous hospital admissions, purpose of admission each time, number of outdoor visits in the past, purpose of each visit, qualification of the patients, knowledge of the patient about salt and water intake, number of stools per day, what to do if the number is more or less than required, advice about i.v. fluids, and herbal medicines, advice about immunization and prophylaxis against infection, immunization status and precautionary measures of the rest of the family.

Diet instructions and adjustment of drug dosage due to changes in weather or other coexisting diseases like gastroenteritis, fever or septicemia. The data was analysed in detail.

RESULTS & OBSERVATIONS

Table-I. Age distribution

Age in Years	Male	Female
15-20	3	-
21-30	15	2
31-40	12	28
51-50	25	12
51 or above	-	3

Out of one hundred patients, 55 were male and 45 were female. The age distribution was shown in table I.

Table-II. Time period after diagnosis of liver disease

Year	N=
1/2-1	20
1-3	53
3-6	22
More than years	5

Table-III. Number of hospital admissions after diagnosis.

No of admission	N=
1-2 times	16
2-4 times	48
4-6 times	28
More than 6 times	8

Table-IV. Number of hospital outdoor visits since diagnosis.

No of OPD visits	N=
1-5 times	30
5-10 times	62
10-15 times	5
More than 15 times	3

Table-V. Purpose of hospital admission

Purpose of visit	N=
Hepatic encephalopathy	48
Due to constipation	28
GIT bleed	16
Fever	4
Bleeding varices without encephalopathy	42
Resistant ascites	10

Table-VI. Purpose of visit in outpatient department	
	N=
Resistant ascites	73
Fever	10
Increasing weakness and lethargy	7
Muscle cramps	3
Increasing jaundice	2
Epigastric tenderness	1
Vomiting	2
Diarrhoea	2

Table-VII. Immunization status	
Immunization status	N=
Immunization of patients against other hepatitis viruses	
Immunization against other diseases like typhoid, influenza etc	
Immunization of attendants against hepatitis A virus	
Immunization of attendants against hepatitis B virus	

Table-VIII. Knowledge of patients	
	N=
Amount of water intake/day	63
No of stools/day	72
Amount of salt intake/day	23
Amount of protein intake/day	26
Adjustment of dosage	7
Caloric intake/day	13
Weight record	2

Table-IX. Help of other modalities	
	N=
Visit to quacks	80
Use of herbal medicine	47
Visits to clergymen	9
Self medication	7

Table-X. Qualification of patients	
Education status	N=
Nil	13
Primary school 1-5	17
Middle school 6-8	37
High School 9-10	29
College education	3
Post-graduation	1

DISCUSSION

Normal liver is performing many functions so impairment of its function causes many problems. The physician should identify each problem and deal accordingly[24]. Malnutrition of the patient is a major problem. Cause of malnutrition may be a delay in the diagnosis or delay in planing diet chart for each patient.

Poor Palatability of the diet due to salt restriction, undue protein restriction, anorexia or nausea, fasting due to repeated procedures and investigations, increased endogenous protein catabolism all lead to malnutrition. Once malnutrition sets in it becomes increasingly difficult to treat it. Malnutrition leads to proximal muscle wasting, hypoalbuminemia causes worsening of ascites and decreased resistance to infections. Weakened connective tissue may predispose to variceal haemorrhage, umbilical hernia and poor wound healing.

The patient should consume dense caloric[1,17] formula e.g., 0.8 to 1 Kcal/ml. When formula better than casein enriched in branched chain amino acids 30% should be fat with 15% as middle chain triglycerides. Complex polysacchrides should constitute about 60% of energy

intake. The amount of proteins that can be tolerated by people with cirrhosis varies considerably. Usually there is a small margin of safety in such patients. Usually 60 g of proteins per day are adequate and it should be decreased in cases of hepatic encephalopathy. Long term protein restriction is no more advocated as it causes resistant ascites. There is no limit on vegetable proteins as increased uptake of branched chain amino acids is very beneficial[13-16,21-23,29]. In severe liver failure there is a very high level of aromatic amino acids like phenylalanine, methionine and tyrosine that may suggest diets low in these amino acids should be used. The patient should on a diet rich in fresh fruits and vegetables. Antioxidant vitamins, calcium and other minerals should be supplemented to meet the specific requirements[19,26].

Zinc supplementation[18,25] may reduce frequency and severity of muscle cramps. It improves taste sensation in these patients. Zinc is a cofactor in various enzymatic processes and its deficiency impairs amino acid metabolism. So zinc replacement may even protect against hepatic encephalopathy[27-29]. Restricing salt intake to less than 2000 mg a day is advised for the patients with ascites. The less the salt intake the better it is.

It should be strongly noted that natural or herbal medicines are not quality controlled. There have been a number of serious and even lethal side effects. Certain studies favour the use of Silybum marianum4 for the therapy of liver disease. However the patient is advised not to use any such medicines without the knowledge of their physician.

The patient should be explained about factor[11] causing encephalopathy, so that they can avoid such factors like constipation or heavy protein diet. They should be advised for early consultation in case of infection or GI blood. Hepatic encephalopathy must be distinguished from other neurological problems that are common in cirrhosis including organic brain syndrome with dementia, epilepsy and subdural hematoma. Lactulose dose should be adjusted to produce 2-4 stools per day. The patient is advised for self adjustment of the dosage in case the required number is not produced.

Ascites is also a major problem[2,3,5,10]. Its presence indicates a poor prognosis. It predisposes to complications like SBP[19] and hepatorenal syndrome. Resistant ascites is defined as ascites unresponsive to 400 mg of spironolactone, 30 mg of amiloride plus 160 mg of furosemide daily for two weeks.

The patients who cannot tolerate diuretics because of side effects are also regarded as cases of resistant ascites. Spironolactone is given in an initial dosage of 3mg/kg/day adjusted to reach the naturetic effects. Urinary sodium should be high than potassium excretion. Unnecessary fluid restriction causes discomfort and indirectly insufficient caloric intake. The patients should maintain their weight record chart and they should modify the dose in case of fever or gastroenteritis.

Varices may occur at many places but those in the oesophagus and stomach are particularly likely to rupture and bleed. The patients should be advised to take drugs regularly to lower the portal pressure.

Immunization is often neglected. Immunization against other hepatitis viruses, pneumococcal and influenza virus is recommended. Of these the most important is probably hepatitis A vaccine[7]. Bacterial infections are of particular concern as these are poorly tolerated. The factors responsible for that are malnutrition with impaired cell mediated immunity, decreased integrity of the bowel wall leading to bowel translocation and impaired activity of the hepatic and splenic reticulo-endothelial system. Usually the infections are hospital acquired. The most common bacterial infections are urinary tract infection, pneumonia and SBP. Septicemia causes hypotension, progressive pre-renalazotemia with hepatorenal syndrome and hepatic encephalopathy. Risk of infections should be reduced by antibiotic prophylaxis[8,9].

Certain medicines worsen the liver function. Sedatives and narcotics are best avoided. Drugs that are eliminated by the liver should be used in a low dosage especially the drugs which have high first pass hepatic clearance. Potentially hepatotoxic drugs present a difficult problem because hepatotoxicity may be difficult to diagnose.

Moreover consequences of hepatoxicity superimposed on already bad liver may be devastating. Non steroidal anti-inflammatory drugs aggravate renal salt retention so these should be avoided.

From the above discussion we understand that just writing the medication to the patinet is not enough. The physician should have a sound knowledge of the pathophysiology of the progressive disease process and he should share the knowledge with the patient and his attendants. This, in the long run will reduce the number of hospital admissions and decrease the morbidity and mortality rate.

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