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Research Article

JAUNDICE EVALUATION IN MEDICAL WARDS, STUDY IN A RURAL MEDICAL COLLEGE HOSPITAL IN SOUTH INDIA

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ABSTRACT

The incidence of liver disease and liver failure throughout the world is increasing, causing lakhs of deaths every year. Jaundice is a physical manifestation of underlying bilirubin elevation resulting from a variety of diverse causes. The aim of this study is to study the pattern of liver involvement in various conditions in this area. Cases presented to the hospital either directly or by referral from surrounding hospitals. The data is divided into two groups based on whether the disease process is acute or chronic and the data is analyzed for age, sex, socioeconomic status, type of liver disease, treatment given and outcome. Out of 6700 medicine inpatients, 360 cases with jaundice (5.22 %) are found. 60 % of patients have chronic liver disease and alcoholic etiology is found in 94 %. The needs of patients with liver-related disease have been grossly underestimated and largely ignored. There is a need to spread awareness about preventable hepatic diseases and reaching out to people suffering from chronic or advanced diseases.

Keywords: Jaundice, Bilirubin, Alcohol.

INTRODUCTION

The human liver contains complex parenchymal cells that perform multiple functions which are essential for life. The liver does not easily demonstrate dysfunction at least in its metabolic activities. This is because of enormous reserve capacity and marvelous regenerating power of the liver and only a small portion of the liver is enough to perform all the functions. About 75-80 % of liver, need to be out of function for any of the test to be positive. As is clear from the fact that the liver has been called "a silent organ," a diseased liver shows relatively few clinical signs unless the disease is severe or advanced. However, simple liver function tests using blood samples are widely available as part of routine health examination, providing opportunities for physicians to find abnormalities in liver function test results in daily clinical practice[1]. Even in an asymptomatic individual a careful history may identify potential causes of abnormal liver function tests[2]. The most common causes encountered in Southeast Asian region are; infective hepatitis, obstruction to bile ducts by gall stones or tumors, alcoholic liver disease, drugs, etc[3]. Liver disease may vary from country to country and in the same country in different cultural groups and at different periods of time[4]. The common causes of chronic liver diseases all over the world are infection with hepatitis B virus, hepatitis C virus and alcohol abuse. Alcohol is associated with high morbidity and mortality; about 3.7 % of the global deaths[5]. There is an increase in incidence of liver disease and liver failure throughout the world and in India. Liver diseases are one among the top killer diseases in India, causing lakhs of deaths every year. The leading cause of liver disease in India is excess alcohol consumption and alcohol use is increasing in india[6]. Chronic liver problems need recurrent hospitalization and prolonged medical care, this leaves people physically, mentally, emotionally and financially devastated. Jaundice is a physical manifestation of underlying bilirubin elevation resulting from a variety of acquired causes, often accompanied by only nonspecific symptoms. In recent years acute infections in large number involve liver as a part of multi-organ dysfunction syndrome with poor survival. The present study was undertaken to assess the pattern of liver involvement in various conditions in a rural teaching hospital in kolar, India.

Objective

To study the pattern of liver involvement in various conditions in this area

MATERIALS AND METHODS

360 cases of jaundice presented to the hospital either directly or by referral from surrounding hospitals. This prospective study is from 1-1-2011 to 1-6-2012 (18 months). All cases admitted to Intensive care unit and medical wards with jaundice are evaluated.

Inclusion criteria

All cases admitted to Intensive care unit and medical wards with jaundice.

Exclusion criteria

- Age less than 18 year.
- Proven surgical cause for jaundice (ex-gall stones, carcinoma pancreas).

The data was analyzed for age, sex, socioeconomic status, type of liver disease, treatment given and outcome. Detailed patient evaluation, personal history, family interview, a review of medications for underlying liver illness and medical co-morbidities was done. Baseline complete blood count, liver function test[7,8], prothrombin time, serum electrolytes, blood urea, serum creatinine, ascitic fluid analysis, SAAG, Blood cultures, glucose, various serological test (HBsAg, dengue, leptospirosis, rickettsia), Blood smear for malaria, radiography, HIV, urinalysis, erythrocyte sedimentation rate (ESR), ECG (electrocardiogram), Arterial blood gas analysis, and trans abdominal ultrasound scan were done in all cases. Echocardiogram, FNAC liver, ADA levels, esophagogastroduodenoscopy, colonoscopy, CSF analysis, computed tomography brain imaging and Doppler study were done in selected patients.

RESULTS

Out of total 6700 medicine inpatients, 360 cases with jaundice (5.22 %) were found.

2 groups were done based on onset of symptoms whether acute or chronic.

Age range: In years, 18-84 was common for both groups.

Comorbidities – alcohol abuse, diabetes mellitus, hypertension, steroid abuse, malignancy

Under **Group 1** - 212/360 (58.8 %) patients had chronic liver disease. Male to female patient ratio of 8.2:1 was observed in this group. Clinical features observed in group 1 were Jaundice, abdominal distension and fever were slow in onset (2 weeks to 3 months), acute hematemesis, melena, hematochezia, altered sensorium and oliguria were also reported. Alcohol formed the largest 199 (94 %) group. Males outnumbered female alcoholics in this group (189:23 - 8.21:1). The duration of alcohol consumption was from 5 years to 35 years. 150 cases belonged to poor socioeconomic strata and had no schooling and literacy. Treatment undertaken by group 1 patients included Hepatoprotective drugs, beta blockers, diuretics, vitamin K, antiviral agents and sclerotherapy for varices, lactulose, bowel wash, metronidazole and blood transfusion. The mortality was 11.7 %, 25 patients who died due to various complications like, hepatic encephalopathy, hepato-renal syndrome, upper gastrointestinal bleed and hepatocellular failure. Under **Group 2**- 148/360 (41.1 %) patients had acute fever, jaundice, MODS who were previously well; Male to female ratio of 1:1 was observed in this group. Clinical features observed in group 2 were Jaundice (3 days to 15 days duration), along with mild abdominal distension, fever, malaise, headache, vomiting, focal neurological deficits, myalgia, altered sensorium, hypotension, tachycardia, tachypnea, respiratory distress, disseminated intravascular coagulation (DIC), rashes and oliguria were reported. Treatment undertaken by group 2 patients included Antibiotics, antimalarial, anti-tubercular drugs, doxycycline, crystalline penicillin, ventilator support, hemodialysis, and supportive treatment (intravenous fluids, Ryle's tube feeds) was the approach in general. Tragically in acute fever and MODS group, mortality was 50 %, majority in elderly group. Portal hypertension (ascites, splenomegaly and esophageal varices) was recorded in 120 cases during first admission. All these were undernourished, anemic (Hb-7 to 9 g %), BMI was 13-15 kg/m^2, hypoalbuminemia and prolonged prothrombin time was seen. Complications of portal hypertension:

- Hematemesis from esophagealvariceal bleed was the first manifestation in 15 cases.
- In 28 cases with repeated hospitalization, hepatocellular failure and in 16 cases oliguria (hepatorenal syndrome) was found.
- Hepatic encephalopathy was found in 20 cases.

Alcoholic hepatitis was found in 30 cases (Short history of symptom onset).

HBsAg was seen positive in 10 cases.

Hepatic metastasis was found in 10 cases (primary from stomach, lung and colon carcinoma) with liver failure of first onset.

Hepatocellular carcinoma was found in 8 (HBsAg 2 and alcoholic cirrhosis 6) along with hemorrhagic ascites.

Pancytopenia due to hypersplenism was found in 3 cases of non cirrhotic portal fibrosis.

Tuberculosis of abdomen in the form of peritonitis only was found in 20 cases of cirrhosis (no pulmonary focus of tuberculosis), without any lymph nodes, omental thickening and ileocaecal involvement. HIV was found in 5 cases and these patients were on antiretroviral drugs with elevated bilirubin and transaminases. Drug induced hepatitis was in 2 cases, due to anti tubercular therapy. Liver abscess was seen in 4 cases, all pyogenic (*Eschertia coli* and *Pseudomonas aeruginosa* grown in culture). Monocrotofos induced hepatic damage was found in 4 cases. Cryptogenic cirrhosis was found in 2 women (non-obese, non-diabetic, non-alcoholic and HBsAg negative). Among alcoholic cirrhosis clinically and sonologically diagnosed cases (micro nodular and macro nodular), splenic vein thrombosis was found in 5 cases but no hypercoagulable state was detectable. Wilson's disease was found in one lady 24 years old. All 212 cases were icteric. Porta-systemic collaterals were sonologically identified in 54 cases. Clinically shrunken liver (small liver span) was found in 90 cases, liver was large (16 cm to 23 cm liver span) with firm consistency in 42 cases. Splenomegaly was massive in 3 cases and moderate in 80 cases. (Figures 1, 2, 3)

DISCUSSION

Finding of 360 cases admitted for jaundice and in these 60 % constituted chronic liver disease (94 % alcoholic etiology) shows the seriousness of liver illness in our society, socio-demographics showed that prevalence of alcoholism in women is also significant (23 out of 212, i.e.10.84 %). The significant socio-familial factors in this study were poverty, illiteracy and large household. After one year, overall only 108 came for follow up others were lost to follow-up among chronic liver disease. Deforestation increases malaria, mosquito bites are more in these areas than in forest areas. Global warming, resulting in increased rainfall, temperatures and humidity, has caused an increase the incidence of many diseases like malaria, dengue and leptospirosis to epidemic proportions, which severely manifest in old population and with other co-morbidities.

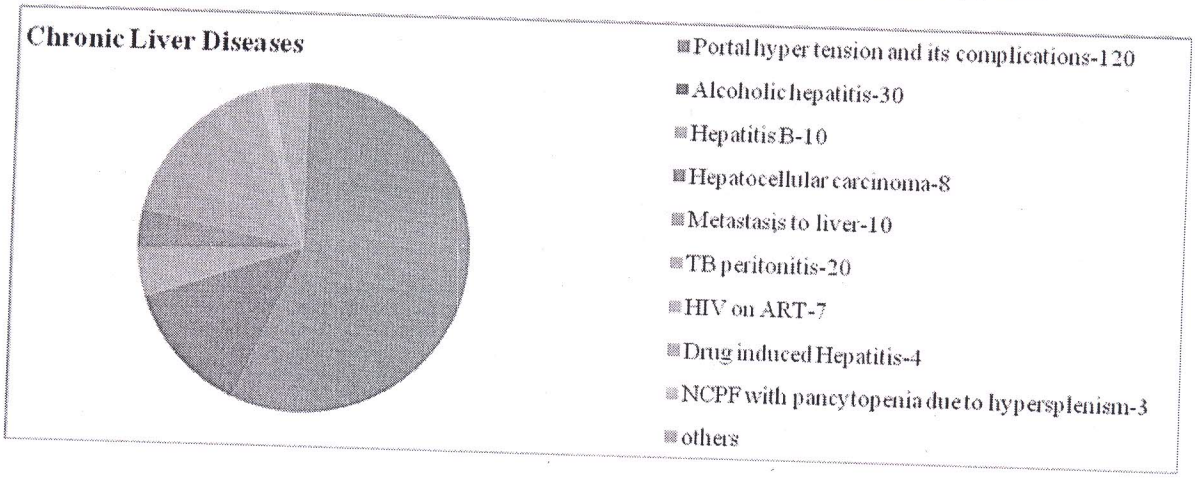

Figure 1

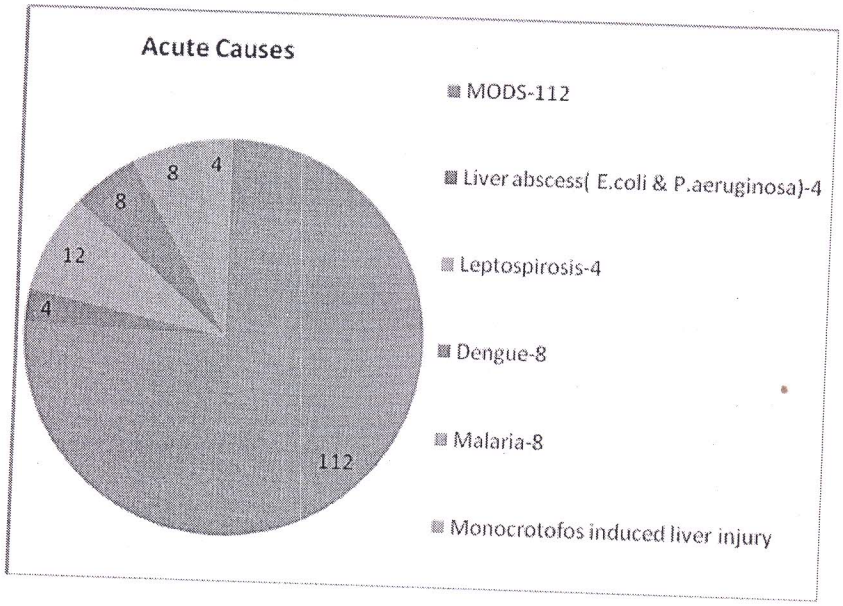

Figure 2

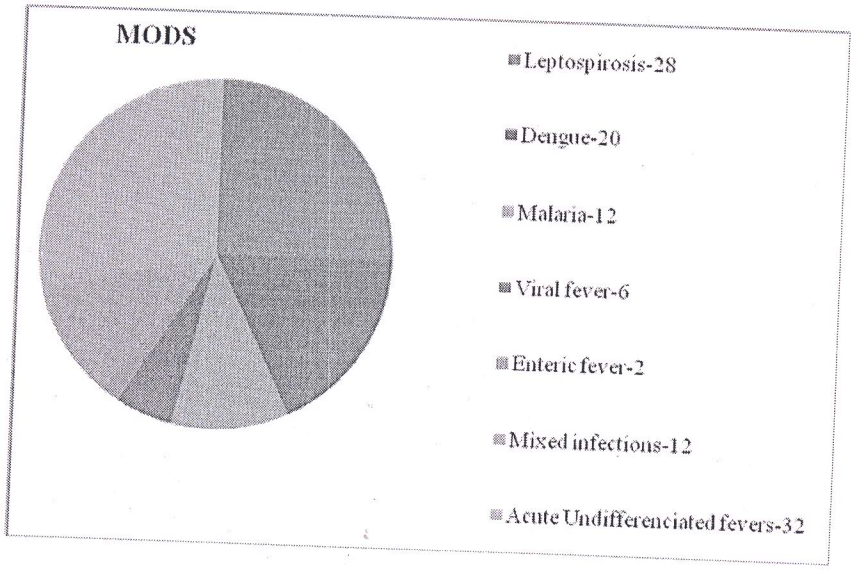

Figure 3

CONCLUSION

This study shows, 360 cases of jaundice due to chronic liver disease as well as acute fever in MODS, in our rural medical college. The needs of patients with liver- related disease have been grossly underestimated and largely ignored. There is a need to spread awareness about preventable hepatic diseases and reaching out to people suffering from chronic or advanced diseases.

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