

Analysis of prescription pattern of alcoholic liver disease in different stages and its complications in a secondary care teaching hospital

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ABSTRACT

Background: Alcoholic liver disease (ALD), a severe, potentially lethal effect of alcoholism. Alcoholic steatosis/ Fatty liver, Alcoholic hepatitis, Alcoholic cirrhosis are the stages.

Prescription pattern monitoring studies (PPMS) is used as a method for analysis of prescription, dispensing and distribution practices of medication. Ensuring rational use of medicines (RUM) is the important aim of PPMS.

Methods: A cross sectional observational study was carried out in 90 alcoholic liver disease patients in a secondary care teaching hospital. The analysis was done on the basis of sociodemographic criteria, stages of the disease along with comorbidities and comparison of prescribing patterns. Child pugh score was used for the categorization of stages of ALD.

Results: The study implied that male patients were more than female patients and the mean age group of 36-45. Most of the patients were diagnosed with alcoholic cirrhosis with all the patients were evidently found alcoholics. Diabetes Mellitus is the most seen co-morbidity among the participants. By carrying out PPMS, it was found that vitamin tablets were prescribed more often for ALD patients. Around 65% of the drugs were injectable and around 60% were prescribed in their generic name itself. Average number of drugs per prescription was 5 and average number of ALD related drugs prescribed was found to be 3.

Conclusion:

Our Study analyzed for prescribing pattern of drugs used in ALD patients and found that vitamin supplements are the most prescribed drugs followed by hepatoprotections and antibiotics and least used drugs are antihyperlipidemic followed by steroidal drugs.

Keywords: alcoholic liver disease, prescription pattern analysis, stages of alcoholic liver disease.

INTRODUCTION:

Alcoholic liver disease (ALD) is a severe, possibly lethal effect of alcoholism. The degree of liver damage caused by alcohol consumption can be different. Most of the patients were consuming country made liquor (80%), there was a significant difference found between disease severity and branded wine consumers which correlated significantly with the three disease prognosis markers. When correlated with complications, ascites was the most common complication in the country made spirit followed by encephalopathy, GI bleed didn't correlate significantly with the type of alcohol consumed. South Asian population is more prone to develop ALD due to genetic polymorphism of the genes responsible for alcohol metabolism like CYP2E1, ADH, and ALDH. It is to be considered that toddy drinking in the region of Telangana is considered culturally and socially acceptable especially among women.¹

Since this is the current statistics, proper utilization of drugs and to up bring a better health in the society, Prescription pattern monitoring studies (PPMS) must be followed to the core and this is the responsibility of every health care professional. ALD develops due to years of heavy alcoholism. ALD may not develop in every heavy alcoholic. Probability of ALD depends period and amount of alcohol consumption. Most patients are of 40 to 50 years of age. Even though males are likely to develop ALD, females would be affected even with lower amount of alcohol than males. Hereditary can be the risk factor too.²

The relation between the development of cirrhosis and the type of alcoholic beverage consumption is hypothetical. Various studies have shown variable results with the type of alcohol consumed. Researches hugely show that there is a direct proportion with the quantity and period of alcohol consumption to the incidence of ALD.

The advantage of prescribing indicators for the mean number of drugs per prescription, generic medication, injections, and medicines from NLEM shows, depicts variation from the conventional guidelines recommended by WHO. Hence further multi-centered researches are needed to avail better outcomes on the prescribing pattern of alcoholic liver disease in India. Hence, the factors have to be tracked extremely and strictly to ensure systematic prescribing practice in hospitals of India.³

MATERIALS AND METHODS

A cross sectional observational study was carried out in 90 alcoholic liver disease patients in a secondary care teaching hospital. Patients above 15 years of age (either sex) diagnosed with alcoholic liver disease with or without co morbidities who were willing to participate in the study was included and pregnancy, immune compromised patients, patients with complicated antibiotic therapy were excluded from the study. The ALD patients were analysed based on their socio demographic details, disease stage based on Child Pugh Score along with the co morbidities associated. The prescribing pattern in alcoholic liver disease patients based on the stage of diagnosis, drug category, number of drugs per prescription, dosage forms were analysed. Child pugh score was used as a tool to assess survival rate of ALD patients.

Child pugh score

This tool helps in assessing the prognosis of chronic liver disease especially cirrhosis which helps in understanding the survival rate of ALD patients and the need for liver transplantation as well as treatment strategies. The tool is having five clinical measures including total bilirubin, Serum albumin, prothrombin time, Ascites and encephalopathy. Based on these clinical measures patients were classified into different stages of liver diseases.

Patient profile format

A custom made patient profile format was prepared which included all details necessary for the study such as, patient's age, gender, social habits, past medical history, past medication history, lab investigations, diagnosis with the stage of the disease, medications.

RESULTS:

Demographics of ALD patients:

A total of 90 ALD patients were enrolled in the study, were most of the patients were Male (92.2%) and mean age were found to be 36-45 age (37.77) followed by 46-55 age (22.2) respectively (Table1)

Social habits of ALD patients:

Among 90 patients enrolled, 30% ALD patients were both alcoholics and smokers where remaining 70% of them were exclusively alcoholics.

Duration of alcohol consumption of ALD patients:

Patients who were consuming alcohol for less than 10 years were found to be 24.4% and percentage of patients who consumed alcohol from 10-15 years and more than 15 years were found to be the same which is 37.7% which shows that majority of the patients have started the drinking habit since 10 years that is 75.55% of the total sample size.

Stages of ALD of ALD patients:

Majority of the patients were cirrhotic which constituted 42.2% of the sample size followed by hepatitis patients and then followed by steatosis patients which is 32.22% and 25.5%.

Complication of ALD:

Most common complication associated with the selected patients was ascites which is about 37.77% and followed by other complications like portal hypertension(23.33%) and hepatic encephalopathy(14.44%). This showed that 75.55% of the participants experienced complications of ALD

Comorbidity of ALD patients:

Among Participants 55.55% of the ALD patients had comorbidities like diabetes mellitus (25.55%), hypertension (28.88%) and hyperlipidemia(1.11%). Depicted in Table 2.

Prescription pattern

By analysing the prescription, it is found that patients were prescribed with various categories of drug includes antibiotics, vitamin supplements, hepatoprotectants, analgesics, proton pump inhibitors Among which vitamins were prescribed most commonly to all the ALD patients followed by hepatoprotectants and then antibiotics. The least prescribed category were hyperlipidemics and steroids (Figure 1).

Drug use indicators:

The drug use indicators were used to assess prescription were average number of drugs per prescription was found to be 5 and average number of ALD related drugs per prescription were found to be 3. The percentage of drug prescribed by generic name were 60.16% and percentage of injectable drugs were 65.45%. This result showed that most of the medications were prescribed in their generic names and also injectables were prescribed widely than any other dosage forms available. (Table 3)

DISCUSSION:

Through our study, we could derive that male patients were more than female patients and under the age group of 36-45. Most of the patients are diagnosed with alcoholic cirrhosis with all the patients were evidently found alcoholics. Diabetes Mellitus is the co-morbidity seen in a greater percentage among alcoholic liver disease patients than Hypertension or Hyperlipidemia. Evaluation of prescription pattern was done and we could understand that vitamin tablets were prescribed the most for alcoholic liver disease patients. Also percentage of drugs prescribed in their generic name, percentage of drugs ALD drugs prescribed, percentage of injectable drugs prescribed and average number of drugs per prescription for ALD patients were derived.

In our study most common complication found was ascites, followed by portal hypertension. Also males are more prone to ALD which may be due to increased consumption of alcohol. It is found that duration of alcohol consumption greatly contribute to development of complication, that is Most of the patients have been consuming alcohol since more than 10 years that caused severe complications which is similar to study conducted by Christeena. *J et al*⁴

In our study, majority of the patients are males which has resemblance with the study conducted by Vadla *et al*⁵

CONCLUSION

According to our study results, we could conclude that male patients are more than female patients due to high chances of alcohol abuse in male patients and alcoholic cirrhosis was the major diagnosis observed. Majority of them were experiencing complications from the disease like ascites, portal hypertension, hepatic encephalopathy. Also; around 55% of the people had co-morbidity as well.

We could also come to a conclusion that a good percentage of people are alcoholics in the present scenario of which a good percentage are dependent to it or are prone to alcohol induced diseases due to the evident period and amount of ethanol consumption. By carrying out PPMS, it was found that vitamin tablets are prescribed more often for ALD patients. Around 65% of the drugs were injectable and around 60% are prescribed in their generic name itself. Average number of drugs per prescription was 5 and average number of ALD related drugs prescribed was 3.

Hence considering the nature of alcohol consumption, diagnosis, complications and co-morbidities experienced, better and systematic PPMS has to be done for the better patient care, health, quality of life as well as for a better society, since social or ethical nuisance and individual destruction have been more due to alcoholism. So this is not a health care need but also a community need.

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Conflict of interest:

The authors declare no conflict of interest, financial or otherwise.

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Tables:

Table 1. Socio demographic details of ALD Patients

CRITERIA	n(%)
GENDER	
MALE	83(92.22%)
FEMALE	7(7.77%)
AGE GROUP	
15-25	0(0%)
26-35	15(16.66%)
36-45	34(37.77%)
46-55	20(22.22%)
56-65	16(17.77%)
66 AND ABOVE	5(5.55%)
SOCIAL HABIT	
ALCOHOLIC	90(100%)
SMOKER	27(30%)
BOTH	27(30%)

Table 2. Analysis of ALD Patients

CRITERIA	n(%)
DURATION OF ALCOHOL CONSUMPTION	
Less than 10 years	22(24.44%)
10-15 years	34(37.77%)
More than 15 years	34(37.77%)
STAGES OF ALD	
Alcoholic steatosis	23(25.55%)
Alcoholic hepatitis	29(32.22%)
Alcoholic cirrhosis	38(42.2%)
COMPLICATION OF ALD	
Ascites	34(37.77%)
Portal hypertension	21(23.33%)
Hepatic encephalopathy	13(14.44%)
COMORBIDITIES	
Diabetes mellitus	23(25.55%)
Hypertension	26(28.88%)
Hyperlipidemia	1(1.11%)

Table 3. Analysis of prescription using Drug use indicators

Drug use indicators	Observed Value
Average number of the drugs per prescription	5
Average number of the ALD related drugs per prescription	3
Percentage of drugs prescribed by generic name	60.16%
Percentage of injectable drugs	65.45%

Figures:

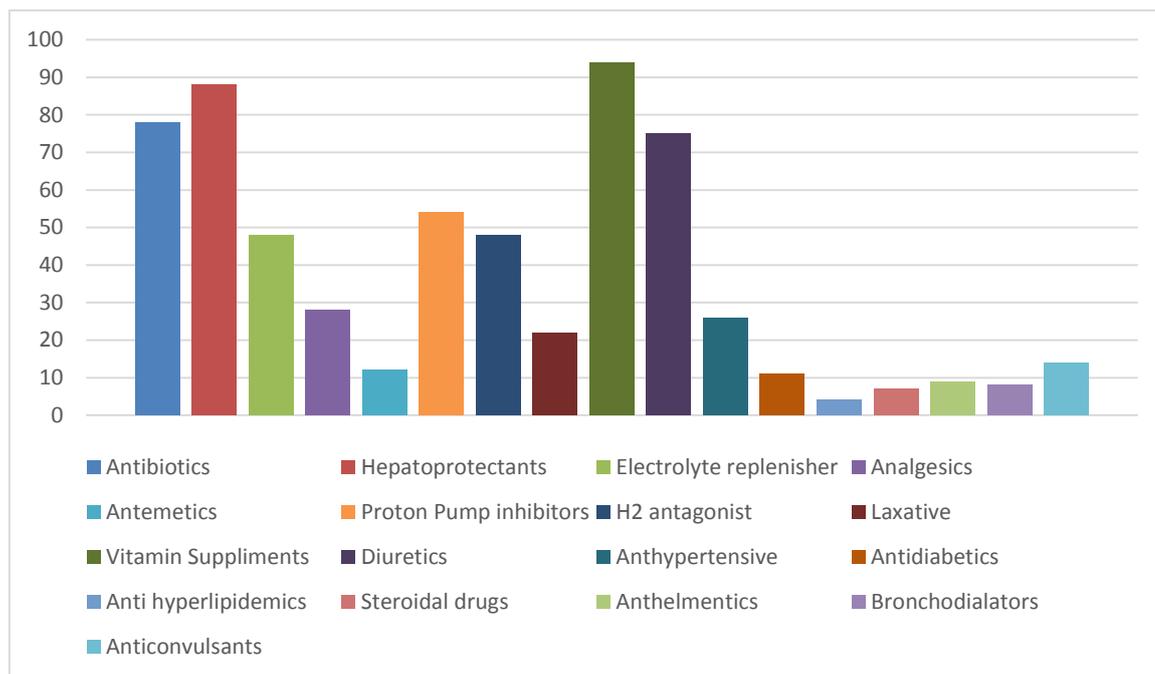


Figure 1. Analysis of Prescription in ALD Patients

