e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2023; 15(6); 732-736

Original Research Article

Etiology and Mode of Presentation of Chronic Liver Diseases in South Rajasthan: A Single Center Study

Pankaj Gupta

Associate Professor, Department of Gastroenterology, Geetanjali Medical College and Hospital, Udaipur, Rajasthan

Received: 06-04-2023 / Revised: 20-05-2023 / Accepted: 14-06-2023

Corresponding author: Dr. Pankaj Gupta

Conflict of interest: Nil

Abstract

Objective: This study is conducted to delineate the etiology and clinical profile of chronic liver disease of 400 patients.

Method: This is a prospective, hospital based study conducted on a sample size of 400. Every case was clinically assessed by a physician before enrollment. The questionnaire administration, data procurement was done by trained interviewers, under supervision of clinicians. All patients provided written informed consent to participate in this observational study.

Result: Out of the total sample size, 33.9% presented with decompensated cirrhosis. Alcoholism (34.3%)was the commonest cause of cirrhosis while Hepatitis B (33.3%) was predominant cause of chronic liver disease in general and non-cirrhotic chronic liver disease (40.8%). Hepatitis B (46.8%) was the commonest cause of hepatocellular Cancer.11.7% had diabetes. Observations of our study will help guide a contextually relevant liver care in India.

Conclusion: This study provides a much needed and useful sketch of the clinical patterns, etiologies and overall trends in access as well as relevant care utilization of CLD in India as well as could serve as a framework for similar endeavor in other developing countries as well.

Keywords: CLD, HCV, HBV, LMIC.

Introduction

Chronic liver diseases (CLDs) cause significant mortality and morbidity. There are various etiological factors which lead to a similar clinico-pathological syndrome in chronic liver diseases, although the rates of progression and clinical course may be different [1,2]. Increased mortality due to chronic liver diseases has been reported from low-middle income countries (LMIC) of Asia and Africa [3]. In most of the countries in these region have very poor vital events reporting systems, indicating that the current data could underestimate the existing situation and complimentary approaches are needed to assess the overall impact of CLDs on health systems [4,5,6,7]. Clinical events reporting in India is still fragmentary and usage of electronic medical records in hospitals is just beginning to take shape. In our study, we have reported an analysis based on 400 newly diagnosed cases of CLD, enrolled from the year May 2019 to June 2022 that is over a three year period. Specific objectives of the study were to capture: (a) at what clinical stage of disease do chronic liver disease patients seek clinical attention (b) what are the various etiological factors

responsive to CLD and (c) broad social and demographic issues influencing access to healthcare facilities in India.

Material and methods

This is a prospective, hospital based study conducted on 400 patients who had clinical presentation of liver disease of all etiologies. Data was collected for a period of 3 years at Geetanjali Medical College and Hospital, Udaipur, Rajasthan. Every case was clinically assessed by a physician before enrollment. The structured proforma was developed where all the investigators agreed upon the uniform diagnostic definitions of the clinical phenotypes. It was pilot tested and then applied. The questionnaire administration, data procurement was done by trained interviewers, under supervision of clinicians. All patients provided written informed consent to participate in this observational study. Study was approved by `Institutional Ethics Committee' of Geetanjali Medical College and Hospital, Udaipur.

Result:

A total of 400 patients were enrolled in this study. Exclusion data were metastatic cancer and acute liver disease patients. Final analysis was done on the newly diagnosed CLD (n = 400) which comprise 19.77% of all newly diagnosed liver disease patients.

Table1: Characteristic of the Chronic Liver Disease patients.

Characteristic		Patients	P value
Urban dweller		50.4%	<0.001
Patients without literacy		8.8%	<0.001
Patients below poverty line		23.4%	<0.001
Age at diagnosis	Mean ± SD	42.8 ± 14.4	<0.001
	Median (range)	43	<0.001
Etiology	HBV related	33.3%	
	HCV related	21.6%	
	Alcohol related	17.3%	
	NAFLD related	12.8%	
	Others	15.5%	
Diabetes		11.7%	<0.001
Current alcohol user		18.7%	<0.001
Prevalence of HCC		3.4%	<0.001
Patients with cirrhosis		33.9%	<0.001
Distance to nearest health care facility(km)		2	<0.001
Availing government health care facility		31.6%	<0.001

Patients with severe forms of liver disease like cirrhosis were more dependent on public healthcare system. Comparison between the patients above and below poverty line (APL vs BPL) shows that Hepatitis C Virus (HCV) is the second most frequent etiology in APL group, whereas, alcohol is in BPL group. Patients in BPL group avail government health care facility more frequently and reside comparatively at farther distance from nearest health care facility.

Table 2: Characteristics of the chronic liver disease patients according to pattern of the disease.

Characteristic		All patients	Cirrhosis	Non cirrhotic chronic liver disease	Hepatocellular cancer	P value
Male		73%	78.6%	69.4%	84.2%	<0.001
Age at diagnosis	Mean ± SD	42.8 ± 14.4	47.7 ± 13.4	39.6 ± 13.9	54.4 ± 13.8	<0.001
	Median (Range)	43	48	39	56	<0.001
Duration of disease before enrolment		0.13	0.4	0.03	0.32	<0.001
Etiology	HBV	33.3%	18.1%	40.8%	46.8%	<0.001
	HCV	21.6%	17.3%	24.2%	14.8%	<0.001
	Alcohol related	17.3%	34.3%	8.6%	9.6%	<0.001
	NAFLD related	12.8%	1.7%	19.4%	0.0	<0.001
	Others	15.5%	29.0%	7.5%	29.0%	<0.001
Diabetes		11.7%	16.9%	8.6%	16.9%	<0.001
Current alcohol user		18.7%	28.8%	13.2%	18.0%	<0.001
Distance to nearest health care facility		2	2	2	3	<0.001
Availing government health care facility		31.6%	41.2%	25.5%	49.3%	<0.001

Apart from NAFLD, patients with alcohol related CLD had higher proportion of diabetics as depicted in Table 3.

Table 3: Etiology-specific profile of chronic liver disease.

characteristics		All patients	HBV	HCV	Alcoholic	NAFLD	P value
Male		73.0%	74.7%	67.8%	98.4%	59.3%	<0.001
Age at diagnosis	Mean ± SD	42.8 ± 14.4	38.1 ± 14.3	43.8 ± 13.8	46.8 ± 10.6	45.2 ± 13.2	<0.001
	Median	43	36	44	46	45	<0.001
Diabetes		11.7%	6.1%	9.4%	12.6%	20.1%	<0.001
Current alcohol user		18.7%	11.0%	11.0%	61.9%	9.7%	<0.001

Discussion

This study was designed to ascertain clinical, etiological and access related features pertaining to chronic liver diseases in India. Essential observations of this study include the finding that at least one third of the CLDs present at a remarkably advanced stage of decompensated cirrhosis in India. Hepatitis B vaccine was introduced in the Universal Immunization Program of 10 states of India in the year 2007±08[8]. We demonstrated based on data that chronic liver diseases presents fairly late in Indian hospitals, including after onset of decompensation, in about one third of the patients. In the context of the resource constraint health systems like India and many other LMICs, this observation of a relatively late presentation

of a fairly large segment of CLD patients is of particular concern[9,10]. Care for liver disease is maximally effective if diagnosed early. The etiological profile of CLD in India, as shown in our data, highlights the epidemiological transition that the country is passing through. HBV remained the most common cause of CLD overall, while alcoholism was the primary runner for cirrhosis of liver. Significance of alcoholism and diabetes remain the two emerging features of our study that needs to be mentioned. Alcohol was the most common cause of cirrhosis while 12% patients had diabetes. There is a surge of alcohol related morbidity at a global scale and the Indian scenario is similar. This present study shows that diabetes and thereby NAFLD is coming up as a significant etiology and comorbidity having negative impact on the course and outcome of the liver diseases, as has been observed in other developing countries[12]. During this study, we found that 12% of all hospital attendances in Indian hospitals were due to CLD alone and the fact that only one fourth of all liver disease patients attending hospitals were newly diagnosed. CLD mortality figures in India are increasing progressively since 1980 while that of other Asian country with a large population remain stationary and is even showing downward trends in mortality[11,13]. Despite the strengths of the study discussed earlier, a need of larger and more representative samples are needed to improve the generalizability of the findings to the country as a whole.

Conclusion

Present study provides a much needed and useful sketch of the clinical patterns, etiologies and overall trends in access as well as relevant care utilization of CLD in India. In addition, the profile described here forms a benchmark for any comparisons in the future.

Reference

1. Schiff ER, Sorrell MF, Maddrey EC. Schiff's diseases of the liver. Lippincott.
2. Propst A, Propst T, Zangerl G, Öfner D, Judmaier G, Vogel W. Prognosis and life expectancy in chronic liver disease. Digestive diseases and sciences. 1995 Aug; 40(8):1805-15.
3. Mokdad AA, Lopez AD, Shahraz S, Lozano R, Mokdad AH, Stanaway J, Murray CJ, Naghavi M. Liver cirrhosis mortality in 187 countries between 1980 and 2010: a systematic analysis. BMC medicine. 2014 Dec;12(1):1-24.
4. Byass P. The global burden of liver disease: a challenge for methods and for public health. BMC medicine. 2014 Dec;12(1):1-3.
5. Abubakar II, Tillmann T, Banerjee A. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2015 Jan 10;385(9963):117-71.
6. Gupta M, Rao C, Lakshmi PV, Prinja S, Kumar R. Estimating mortality using data from civil registration: a cross-sectional study in India. Bulletin of the World Health Organization. 2016 Jan 1;94(1):10.
7. Joubert J, Rao C, Bradshaw D, Vos T, Lopez AD. Evaluating the quality of national mortality statistics from civil registration in South Africa, 1997–2007. PLoS One. 2013 May 27;8(5):e64592.
8. Lahariya C, Subramanya BP, Sosler S. An assessment of hepatitis B vaccine introduction in India: Lessons for roll out and scale up of new vaccines in immunization programs. Indian journal of public health. 2013 Jan 1;57(1):8.
9. D'Amico G, Garcia-Tsao G, Pagliaro L. Natural history and prognostic indicators of survival in cirrhosis: a systematic review of 118 studies.

Journal of hepatology. 2006 Jan 1;44 (1):217-31.
10. Williams R. Global challenges in liver disease. Hepatology. 2006 Sep; 44(3): 521-6.
11. Stanaway JD, Flaxman AD, Naghavi M, Fitzmaurice C, Vos T, Abubakar I, Abu-Raddad LJ, Assadi R, Bhala N, Cowie B, Forouzanfour MH. The global burden of viral hepatitis from 1990 to 2013: findings from the Global Burden of Disease Study 2013. The Lancet. 2016 Sep 10;388(10049):1081-8.
12. Rinella M, Charlton M. The globalization of nonalcoholic fatty liver disease: prevalence and impact on world health. Hepatology. 2016 Jul; 64(1):19-22.
13. Mukherjee PS, Vishnubhatla S, Amarapurkar DN, Das K, Sood A, Chawla YK, Eapen CE, Boddu P, Thomas V, Varshney S, Hidangmayum DS. Etiology and mode of presentation of chronic liver diseases in India: A multi centric study. PloS one. 2017 Oct 26;12(10):e0187033.