

## Original Article

### Evaluation of Etiologic Profile of patients with Liver Cirrhosis: A Clinical Study

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#### ABSTRACT:

**Background:** Chronic liver diseases (CLD) cause significant morbidity and mortality worldwide. Known detrimental effects of alcohol consumption and its strong association with liver cirrhosis mortality have led to national and international policy responses to curtail alcohol consumption. Hence; we planned the present study to evaluate the etiologic profile of liver cirrhosis. **Materials & methods:** The present study w included evaluation of etiologic profile of liver cirrhosis patients. Ethical approval was obtained from the ethical committee of the institution. A total of 30 liver cirrhosis patients reporting to the department of general medicine were included in the present study. Etiologic profile of liver cirrhosis of all the patients was obtained and recorded on Microsoft excel sheet. **Results:** Out of 30 liver cirrhosis patients, 18 were males and the remaining 12 were females. Alcohol was the most common etiologic factor for occurrence of liver cirrhosis in the present study, found to be present in 50 percent of the patient population. Other etiologic factors included NASH and hepatitis C. **Conclusion:** Liver cirrhosis is a common liver pathology with alcohol being the most common cause.

**Key words:** Alcohol, Hepatitis, Liver cirrhosis

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#### INTRODUCTION

Chronic liver diseases (CLD) cause significant morbidity and mortality worldwide. Multiple etiological factors lead to a similar clinico-pathological syndrome in CLDs, although the rates of progression and clinical course may be different.<sup>1-3</sup> Cirrhosis of liver with portal hypertension was diagnosed based on standard clinical feature (presence of ascites), radiological evidences (shrunken liver, dilated portal vein with Periportal or other collaterals) and endoscopic evidence (presence of esophageal/gastric/ectopic varices and/or portal hypertensive gastropathy).<sup>4, 5</sup> Known detrimental effects of alcohol consumption and its strong association with liver cirrhosis mortality have led to national and international policy responses to curtail alcohol consumption.<sup>6-8</sup> Hence; we planned the present study to evaluate the etiologic profile of liver cirrhosis.

#### MATERIALS & METHODS

The present study was planned in the department of general medicine of the medical institute and it included evaluation of etiologic profile of liver cirrhosis patients. Ethical approval was obtained from the ethical committee of the institution. Written consent was obtained from all the patients after explaining in detail the entire research protocol. A total of 30 liver cirrhosis patients reporting to the department of general medicine were included in the

present study. Complete demographic details and clinical history of all the patients was recorded. Etiologic profile of liver cirrhosis of all the patients was obtained and recorded on Microsoft excel sheet. All the results were analyzed by SPSS software. Univariate regression curve was used for assessment of level of significance.

#### RESULTS

A total of 30 liver cirrhosis patients were included in the present study. Mean age of the patients of the present study was 45.2 years. Mean weight of the patients of the present study was 68.2 Kg. Out of 30 liver cirrhosis patients, 18 were males and the remaining 12 were females. Alcohol was the most common etiologic factor for occurrence of liver cirrhosis in the present study, found to be present in 50 percent of the patient population. Other etiologic factors included Non alcoholic Steatohepatitis (NASH) and hepatitis C.

**Table 1:** Demographic details of the subjects

Parameter	Value
Mean age (years)	45.2
Number of Patients	30
Males	18
Females	12

**Table 2: Etiologic profile of the patients of the present study**

Etiologic profile	Number of patients	Percentage
Alcohol	15	50
NASH	7	23.3
Hepatitis C	6	20
Others	2	6.7

## DISCUSSION

In the present study, out of 30 liver cirrhosis patients, 18 were males and the remaining 12 were females. Alcohol was the most common etiologic factor for occurrence of liver cirrhosis in the present study, found to be present in 50 percent of the patient population. Other etiologic factors included NASH and hepatitis C. Mokdad AA et al estimated annual age-specific mortality from liver cirrhosis in 187 countries between 1980 and 2010. They systematically collected vital registration and verbal autopsy data on liver cirrhosis mortality for the period 1980 to 2010. They corrected for misclassification of deaths, which included deaths attributed to improbable or nonfatal causes. They used ensemble models to estimate liver cirrhosis mortality with uncertainty by age, sex, country and year. Global liver cirrhosis deaths increased from around 676,000 (95% uncertainty interval: 452,863 to 1,004,530) in 1980 to over 1 million (1,029,042; 670,216 to 1,554,530) in 2010 (about 2% of the global total). Over the same period, the age-standardized cirrhosis mortality rate decreased by 22%. This was largely driven by decreasing cirrhosis mortality rates in China, the US and countries in Western Europe. In 2010, Egypt, followed by Moldova, had the highest age-standardized cirrhosis mortality rates, 72.7 and 71.2 deaths per 100,000, respectively, while Iceland had the lowest. In Egypt, almost one-fifth (18.1%) of all deaths in males 45- to 54-years old were due to liver cirrhosis. Liver cirrhosis mortality in Mexico is the highest in Latin America. In France and Italy, liver cirrhosis mortality fell by 50% to 60%; conversely, in the United Kingdom, mortality increased by about one-third. Mortality from liver cirrhosis was also comparatively high in Central Asia countries, particularly Mongolia, Uzbekistan and Kyrgyzstan, and in parts of sub-Saharan Africa, notably Gabon. Liver cirrhosis is a significant cause of global health burden, with more than one million deaths in 2010. Their study identified areas with high and/or rapidly increasing mortality where preventive measures to control and reduce liver cirrhosis risk factors should be urgently strengthened.<sup>9</sup>

Mukherjee PS et al reported a prospective, multicentric study to delineate the etiology and clinical profile of chronic liver disease in India. A centrally coordinated and monitored web-based data repository was developed (Feb, 2010 to Jan, 2013) and analyzed. Eleven hospitals from different parts of India participated. Data were uploaded into a web based proforma and monitored by a single centre according to a standardized protocol. 1.28% (n = 266621) of all patients (n = 20701383) attending the eleven participating hospitals of India had liver disease.

65807 (24.68%) were diagnosed for the first time (new cases). Of these, 13014 (19.77%, median age 43 years, 73% males) cases of chronic liver disease were finally analyzed. 33.9% presented with decompensated cirrhosis. Alcoholism (34.3% of 4413) 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% out of 8163). There was significant interregional differences (hepatitis C in North, hepatitis B in East and South, alcohol in North-east, Non-alcoholic Fatty Liver Disease in West) in the predominant cause of chronic liver disease. Hepatitis B (46.8% of 438 cases) was the commonest cause of hepatocellular Cancer. 11.7% had diabetes. Observations of our study will help guide a contextually relevant liver care policy for India and could serve as a framework for similar endeavor in other developing countries as well.<sup>10</sup> Ray G studied secular trends and burden of hepatitis in a railway population. Outdoor, indoor, endoscopy unit and mortality records of patients attending this hospital from January 2003 to December 2011 were searched manually and relevant parameters of hepatitis patients were noted, especially etiology, clinical features, treatment, and mortality. Cochran-Armitage trend test was used to test significance of any trend in these parameters. Chronic liver disease (CLD) due to alcohol showed a significant rising trend with early age (mean 48.4 years) and high percentage of decompensated disease (75%) at presentation and high early mortality (63%). No trend was observed for hepatitis B and C, but significant reduction in mortality was observed when definitive therapy was given. Cryptogenic CLD showed a decreasing trend though overall it still remained the most important etiology and survival was better compared with alcohol even with conservative therapy. Only 4% patients had hepatocellular carcinoma. A menace of alcohol related liver disease affecting young productive work force in this part of India is foreseen, which might impact the country's economy and mandates immediate containment policy.<sup>11</sup>

## CONCLUSION

Under the light of above mentioned results, the authors conclude that alcohol is the most common etiologic agent observed in patients with liver cirrhosis.

## REFERENCES

1. Naghavi M, Makela S, Foreman K, O'Brien J, Pourmalek F, Lozano R. Algorithms for enhancing public health utility of national causes-of-death data. *Popul Health Metr.* 2010;8:9.
2. Murray CJ, Rosenfeld LC, Lim SS, Andrews KG, Foreman KJ, Haring D, Fullman N, Naghavi M, Lozano R, Lopez AD. Global malaria mortality between 1980 and 2010: a systematic analysis. *Lancet.* 2012;379:413–431.
3. Murray CJ, Lopez AD, Barofsky JT, Bryson-Cahn C, Lozano R. Estimating population cause-specific mortality fractions from in-hospital mortality: validation of a new method. *PLoS Med.* 2007;4:e326.
4. Corrao G, Ferrari P, Zambon A, Torchio P, Aricò S, Decarli A. Trends of liver cirrhosis mortality in Europe, 1970–1989: age-period-cohort analysis and changing alcohol consumption. *Int J Epidemiol.* 1997;26:100–109.

5. Wang H, Dwyer-Lindgren L, Lofgren KT, Rajaratnam JK, Marcus JR, Levin-Rector A, Levitz CE, Lopez AD, Murray CJL. Age-specific and sex-specific mortality in 187 countries, 1970–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012;380:2071–2094.
6. Foreman KJ, Lozano R, Lopez AD, Murray CJ. Modeling causes of death: an integrated approach using CODEm. *Popul Health Metr*. 2012;10:1.
7. Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M, Makela SM, Lopez AD, Lozano R, Murray CJL. Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *Lancet*. 2010;375:1609–1623.
8. Bosetti C, Levi F, Lucchini F, Zatonski WA, Negri E, La Vecchia C. Worldwide mortality from cirrhosis: an update to 2002. *J Hepatol*. 2007;46:827–839.
9. Mokdad AA, Lopez AD, Shahraz S, et al. Liver cirrhosis mortality in 187 countries between 1980 and 2010: a systematic analysis. *BMC Medicine*. 2014;12:145. doi:10.1186/s12916-014-0145-y.
10. Mukherjee PS, Vishnubhatla S, Amarpurkar DN, et al. Etiology and mode of presentation of chronic liver diseases in India: A multi centric study. Ray R, ed. *PLoS ONE*. 2017;12(10):e0187033. doi:10.1371/journal.pone.0187033.
11. Ray G1. Trends of chronic liver disease in a tertiary care referral hospital in Eastern India. *Indian J Public Health*. 2014 Jul-Sep;58(3):186-94. doi: 10.4103/0019-557X.138630.

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