ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 05 | May - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CLINICO-ETIOLOGICAL PROFILE OF CHRONIC LIVER DISEASE IN FEMALES IN TERTIARY CARE CENTER IN RAICHUR

Internal Medicine

Dr Shankarappa M Mudgal Professor And Head Of The Department, Department Of General Medicine, Navodaya Medical College Hospital & Research Center, Raichur, Karnataka -584103, India

Dr Shashikanth Patil Final Year Post Graduate, Department Of General Medicine, Navodaya Medical College Hospital & Research Center, Raichur, Karnataka -584103, India

Dr G Rachitha Second Year Post Graduate, Department Of General Medicine, Navodaya Medical College Hospital & Research Center, Raichur, Karnataka -584103, India

Dr Vennamaneni Akhil Final Year Post Graduate, Department Of General Medicine, Navodaya Medical College Hospital & Research Center, Raichur, Karnataka -584103, India

ABSTRACT

Background: Chronic liver disease of varying etiologies is among the leading causes of morbidity and mortality worldwide .Chronic liver diseases commonly have indolent and relentless progression and hence early identification of their etiology and institution of specific interventions is fundamental in preventing/decelerating their progression **Objectives:** To assess the clinical profile and etiology of chronic liver disease in females attending Navodaya Medical College and Research Center, Raichur. **Methodology:** Hospital based cross sectional study of 114 patients diagnosed by clinical examination, ultrasonogram abdomen, upper GI endoscopy and other necessary investigations. Their clinical presentation and etiological diagnosis were profiled at the time of admission. **Results:** Highest incidence of liver disease in females was between 51-60 years and the most common presenting complaint was abdominal distension. The most common etiology was Hepatitis C infection and the most common etiology in women less than 40 years was alcohol. 56.1% patients are in CTP (Child Turcotte Pugh Score) class C. 97.4% patients had portal hypertension and among patients who presented with upper GI bleed 8.8 % of them had grade 4 esophageal varices. **Conclusion:** Incidence, natural history and outcomes of Chronic liver disease differs with gender. Identifying these differences are important for a clinician as they have a bearing on the presentation, diagnosis, potential for progression of the liver disease, outcomes and treatment responses

KEYWORDS

Chronic Liver Disease, Child Turcotte Pugh Score, Hepatitis C Virus, Portal Hypertension

INTRODUCTION

Cirrhosis, also known as liver cirrhosis or hepatic cirrhosis, and end-stage liver disease, is the impaired liver function caused by the formation of scar tissue known as fibrosis due to damage caused by liver disease.1 Damage to the liver leads to repair of liver tissue and subsequent formation of scar tissue. Over time, scar tissue can replace normal functioning tissue, leading to the impaired liver function of cirrhosis.2,3 The disease typically develops slowly over months or years.1 Early symptoms may include tiredness, weakness, loss of appetite, unexplained weight loss, nausea and vomiting, and discomfort in the right upper quadrant of the abdomen.4As the disease worsens, symptoms may include itchiness, swelling in the lower legs, fluid build-up in the abdomen, jaundice, bruising easily, and the development of spider-like blood vessels in the skin.5 The fluid build-up in the abdomen develop spontaneous infections.1 More serious complications include hepatic encephalopathy, bleeding from dilated veins in the esophagus, stomach, or intestines, and liver cancer.6

Cause for the chronic liver disease among female patients are different in proportions when compared to the male populations as female gender is more prone to go for cirrhosis in certain causes eg. Less alcohol intake in females will produce cirrhosis where males wont develop cirrhosis at that alcohol dose.7

And certain diseases are more common among females developing into cirrhosis than males.7,8 -Wilsons disease, Auto immune hepatitis,Primary biliary cirrhosis, Intra hepatic cholestasis of pregnancy Viral infections- HBV,HCV, Hemochromatosis, Cystic fibrosis.

LITERATURE REVIEW

Different study based on Indian data on several clinical aspects of chronic liver disease (CLD) like etiology, natural history, clinical presentation, treatment recommendations and its effect of public health.[9,10,11] But its trend and burden to different morbidity and mortality have never obtained seriousness as in other developed countries.[11,12,13] Examining the trend of the disease over a time period becomes an important tool to observe the variation of its different aspect and provide the status of country's public health system.[14] Getting the knowledge of exact disease burden of the country assist in cost effective and optimal use of control measures taken by the government of that country and it also provide the disease scenario particularly in low resource country like India. This is the reason, when there is a lack of such data; government has failed to develop effective policies which can help the patients to get rid of the disease such as optimal use of liver transplant.[15]

MATERIAL AND METHODS

Study Design: Hospital based cross-sectional study

Source Of Data: The patients admitted under the department of General Medicine of Navodaya Medical College Hospital and Research centre, Raichur with diagnosed Chronic Liver Disease were the source for data collection for duration of 10 months from March 2022 to January 2023.

Inclusion Criteria

Female chronic liver disease patients with age above 18 yrs.

Exclusion Criteria

- Pregnant Patients
- Age < 18 Years
- Post Hepatic Transplant Patients

Sample Size

The sample size was calculated based on the formula used for sample size calculation for case control study.

$$n = \frac{z2\,p\,q}{d2}$$

where, z = 1.96 (confidence limit at 95%)

p = prevalence 74% (incidence of Oesophageal varices among chronic liver disease patients from previous study)

q = 100 – p (100 – 74) = 26

d = allowable error (absolute error of 10) and n is Sample size

By substituting the values in the above formula, the sample size obtained was 114

Sampling Procedure

All female chronic liver disease patients who are all diagnosed by clinical examination, ultrasonogram abdomen, portalvein doppler and other nessery investigations falling under the inclusion and exclusion criteria were selected.

Their clinical presentation were profiled at the time of admission.

Statistical Analysis
Analysis was done in IBM SPSS version 21, Chi-square test was used for inferential statistics and p-value of <0.05 was taken as statistically significant.

RESULTS/DISCUSSION
Majority of the patients belonged to age group 51-60 years; mean: 52.44 ± 10.92 years, higher than other studies, probably due to inclusion of only females in the present study (protective effect of female sex hormones)

Most common mode of presentation was abdominal distension (68.4%) followed by swelling of legs (48.2%), jaundice (33.3%) and melena (29.2%) in decreasing order of frequency – in concordance with other studies

Comorbidities: Type 2 diabetes (24.6%) > Hypertension (21.1%) > Metabolic syndrome and hypothyroidism (10.6%) > dyslipidemia (8.8%)

Commonest physical sign Ascites (90.4%) > pedal edema (84.2%) > pallor (58.8%) > icterus (39.5%)- similar to other studies. While 27.2% of them had stigmata of CLD, 14.9% of them had signs of insulin resistance

Most of the patients (88.5%) were anaemic owing to GI blood loss and anaemia of the chronic disease and thrombocytopenia was present in 70.1% of patients

Hypoalbuminemia was seen in 76.3% patients with mean serum albumin of 2.5 ± 0.54 g/dl, signifying the delayed presentation of patients to hospital and also the initial asymptomatic stage of the CLD
SGPT and SGOT levels were elevated in 75.5% and 79% patients indicating the ongoing liver injury

Baseline Biochemical And Hematological Parameters

Heamatological & Biochemical parameters	Mean	Standard Deviation
Haemoglobin(g/dL)	8.6	2.4
Total leucocyte count(10'/L)	7.4	4.0
Platelet count(lakhs/mm3)	1.34	0.54
ESR(mm)	31.3	30.5
Total bilirubin(mg/dL)	6.3	9
Direct bilirubin(mg/dL)	4.2	6.8
Albumin(mg/dL)	2.5	0.54
Globulin(mg/dL)	3.7	0.86
SGOT(IU/L)	112	171
SGPT(IU/L)	70	93
ALP(IU/L)	233	158
GGT(IU/L)	82	146
Urea(mg/dL)	43.3	41.6
Creatinine(mg/dL)	1.3	1
Sodium(mEq/L)	130	12.9
Potassium(mEq/L)	3.8	0.8
RBS(mg/dL)	135	70
Total cholesterol(mg/dL)	112	66.5
LDL-C(mg/dL)	51.2	30.3
HDL-C(mg/dL)	23.8	11.7
INR	1.68	0.5

Chronic viral hepatitis (Hep B + Hep C= 31.6%) was the most common etiology followed by alcoholic liver disease, (20.2%), NAFLD (19.3%), autoimmune liver disease(11.4%), cryptogenic cirrhosis (8.8%), drug induced liver injury(5.3%) and liver metastasis (1.8%) and cardiac cirrhosis (0.9%)

Higher incidence of NAFLD, ALD and Autoimmune hepatitis compared to other studies, could be attributed to the higher prevalence of alcoholism, autoimmune disease, Type 2 DM and metabolic syndrome

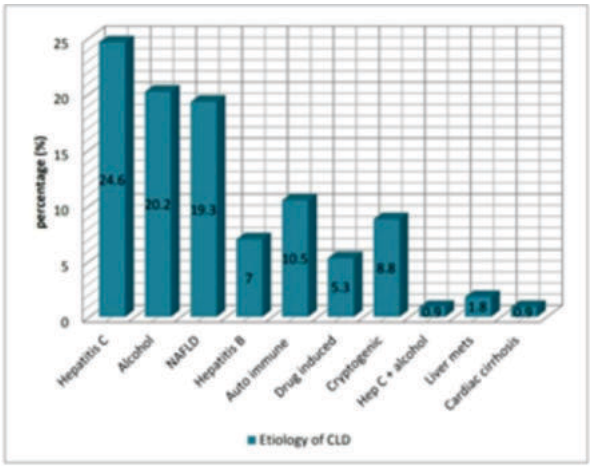
Alcoholic liver disease (46%) was the leading causes of CLD among young patients (age < 40 years)

24.6% patients had Chronic hepatitis C infection of which most of them were postmenopausal (88.9%). Most common mode of transmission – sexual

Chronic hepatitis B related liver cirrhosis was found to be lower (7%) might be due to implementation of large scale hepatitis B vaccination and universal screening of pregnant women for hepatitis B, leading to early diagnosis and treatment

Mean age of the patients with alcohol induced liver disease was 48.3±10.3 years (younger compared to other etiologies). Majority (75%) of them had alcohol consumption for > 10 years.

Mean age of the patients with NAFLD was 58.3 ± 10.8 years, higher than other studies- may be due to the inclusion of only females in our study and higher prevalence of NAFLD in postmenopausal women 95.7% of patients with NAFLD were postmenopausal. Following menopause, total body fat as well as visceral fat increase and this is associated with insulin resistance, glucose intolerance, dyslipidemia, hypertension, cardiovascular disease and fatty liver disease



Statistically significant associations between Type 2 DM, features of insulin resistance, Hypertriglyceridemia, Hypothyroidism and NAFLD was seen in our study

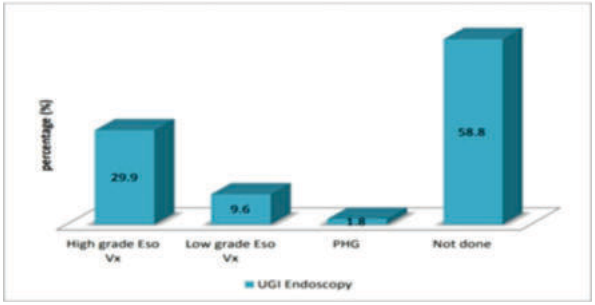
Mean age of patients with autoimmune hepatitis was 51.4 ± 12.1 years. Most (75%) of them were postmenopausal and all had ANA positivity
All patients with drug induced liver injury were found to have HIV infection and were on HAART (TEL,ZLN)

56% patients had decompensated liver disease. Majority (97.4%) had portal hypertension. 31.6% had hepatic encephalopathy and 12.5% had HRS, in concordance with other studies

Complications Of CLD

COMPLICATIONS OF CLD	NUMBER OF PATIENTS	PERCENTAGE
Portal hypertension	111	97.4
SBP	6	5.3
Hepatic encephalopathy	36	31.6
HRS	14	12.5
Refractory ascites	6	5.3
HCC	3	2.6
Coagulopathy	15	13.2
Hepato-pulmonary syndrome	3	2.6
ACLF	36	31.6

7% of patients belonged to CPT class A, 36.8% belonged to CPT class B and 56.1% belonged to CPT class C in our study



UPPER GI ENDOSCOPY FINDINGS: Performed only in patients

with complaints of hematemesis

Majority of the patients (56.1%) had Child C disease and of those presented with Upper GI bleed most of them had Grade 3 esophageal varices.

Strength- first study on clinical and etiological profile of chronic liver disease exclusively on females from Raichur, Karnataka

Limitations
Small sample size and non-availability of liver biopsy.

CONCLUSION

Incidence, natural history and outcomes of Chronic liver disease differs with gender and females have later onset and slower progression of liver diseases

Identifying these differences are important for a clinician as they have a bearing on the presentation, diagnosis, potential for progression of the liver disease, outcomes and treatment responses.

REFERENCES

1. Jameson J L, Fauci A S, Kasper D L, Hauser S L, Longo D L, Loscalzo J, et al. Harrison's Principles of Internal Medicine, 20th Edition. Mc Graw Hill; 2020
2. Dooley JS, Lok AS, Garcia-Tsao G, Pinzani M (8 June 2018). Sherlock's diseases of the liver and biliary system (13th ed.). Hoboken, NJ. p. 82. ISBN 978-1-119-23756-3. OCLC 1019837000.
3. "Symptoms & Causes of Cirrhosis | NIDDK". National Institute of Diabetes and Digestive and Kidney Diseases. Archived from the original on 8 February 2021.
4. "Definition & Facts for Cirrhosis | NIDDK". National Institute of Diabetes and Digestive and Kidney Diseases. Archived from the original on 2021-03-11.
5. Ferri FF (2019). Ferri's clinical advisor 2019 : 5 books in 1. Philadelphia, PA. pp. 337–339. ISBN 9780323530422.
6. "Treatment for Cirrhosis | NIDDK". National Institute of Diabetes and Digestive and Kidney Diseases. Archived from the original on 20 March 2021.
7. Becker U, Deis A, Sorensen TI, et al. Prediction of risk of liver disease by alcohol intake, sex, and age: A prospective population study. Hepatology. 1996;23(5):1025–1029
8. Peng CY, Chien RN, Liaw YF. Hepatitis B virus-related decompensated liver cirrhosis: benefits of antiviral therapy. J Hepatol. 2012;57:442–450.
9. Bosetti C, L evi F, Lucchini F, Zatonski WA, Negri E, La Vecchia C. Worldwide mortality from cirrhosis: An update to 2002. J Hepatol. 2007;46:827-39.
10. Dunbar JK, Crombie IK. The rising tide of liver Cirrhosis mortality in the UK: can its halt be predicted? Alcohol Alcohol. 2011;46:459-63.
11. McAvoy NC, Hayes PC. The cirrhosis epidemic in the UK: evaluating the causes in a european context. Expert Rev GastroenterolHepatol. 2007;1:41-5.
12. Thomson SJ, Westlake S, Rahman TM, Cowan ML, Majeed A, Maxwell JDet al. Chronic liver disease: an increasing problem: a study of hospital admission and mortality rates in England, 1979-2005, with particular reference to alcoholic liver disease. Alcohol Alcohol. 2008;43:416-22.
13. Singh GK, Hoyert DL. Social epidemiology of chronic liver disease and cirrhosis mortality in the United States, 1935- 1997: trends and differentials by ethnicity, socioeconomic status, and alcohol consumption. Hum Biol. 2000;72:801- 20.
14. Vong S, Bell BP. Chronic liver disease mortality in the United States, 1990-1998. Hepatology. 2004;39:476-83.
15. Ray G. Trends of chronic liver disease in a tertiary care referral hospital in Eastern India. Indian J Public Health. 2014;58:186-94