

## A cross sectional study of clinicopathological association in chronic liver disease

M.Lavanya<sup>1</sup>, Y.Sudhasree<sup>2\*</sup><sup>1</sup>Associate Professor, Department of General Medicine, Viswabharathi Medical College and General Hospital, R.T Nagar, Penchikalapadu, Kurnool, Andhra Pradesh, India<sup>2</sup>Associate Professor, Department of Pathology, Viswabharathi Medical College and General Hospital, R.T Nagar, Penchikalapadu, Kurnool, Andhra Pradesh, India

Received: 29-11-2021 / Revised: 26-12-2021 / Accepted:13-01-2022

**Abstract**

**Introduction:** Chronic liver disease is a liver disorder of varying causes and severity with variable clinical, biochemical and histological findings with severity lasting for 6 months or more. Many patients are asymptomatic and in others, symptoms may be mild or intermittent. In some patients, symptoms do not develop and the diagnosis is not made until the disease progresses to cirrhosis. **Materials and Methods:** The present study was a cross-sectional study that included analysis of clinicopathological data of 80 patients' with clinically suspected chronic liver disease who were admitted to the Department of General Medicine, Viswabharathi Medical College and General Hospital, Kurnool between March 2020 and February 2021. A convenient sample of 80 was taken according to the total number of patients admitted to the medical wards. **Results:** Total number of patients (N = 80) of suspected chronic liver disease were included in the study in which 50 were males (62.5 %) and 30 were females (37.5 %), mean age was 48.48 years with a standard deviation of 11.03 years ranging from 26-70 years. Most of them (72 cases) were found in the age group of 30 - 69 years, majority of them (24) were in the age group of 50-59 years. **Conclusion:** Clinical diagnosis of chronic liver disease should be confirmed with histopathological examination. In appropriate clinical settings, the clinical diagnosis of chronic liver disease made by experts is fairly associated with histopathological diagnosis. Liver biopsy is a safe procedure that aids in establishing the diagnosis and helps in the appropriate management of a chronic liver disease.

**Key Words:** Chronic liver disease, Liver biopsy, cirrhosis.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

**Introduction**

Chronic liver disease is a liver disorder of varying causes and severity with variable clinical, biochemical and histological findings with severity lasting for 6 months or more[1].

Many patients are asymptomatic and in others, symptoms may be mild or intermittent. In some patients, symptoms do not develop and the diagnosis is not made until the disease progresses to cirrhosis[2].

Timely and correct diagnosis is very important in the treatment and thereby improving the morbidity and mortality in chronic liver diseases. Registry and robust data for chronic liver disease are also lacking in India[3,4].

Histopathological examination is the single most important diagnostic tool in accurately diagnosing various chronic liver diseases, despite the availability of advanced imaging techniques and serological investigations[5]. We wanted to see the association of clinical diagnosis with the histopathological diagnosis among chronic liver disease patients.

**Materials and methods**

The present study was a cross-sectional study that included analysis of clinicopathological data of 80 patients with clinically suspected chronic liver disease who were admitted to the Department of General Medicine, Viswabharathi Medical College and General Hospital, Kurnool between March 2020 and February 2021. A convenient sample of 80 was taken according to the total number of patients admitted to the medical wards.

**Inclusion Criteria**

Adults above 15 years old with symptoms for more than 6 weeks

\*Correspondence

Dr. Y.Sudhasree

Associate Professor, Department of Pathology, Viswabharathi Medical College and General Hospital, R.T Nagar, Penchikalapadu, Kurnool, Andhra Pradesh, India

E-mail: [sudhasreeyennam@gmail.com](mailto:sudhasreeyennam@gmail.com)

duration with predisposing and precipitating factors, symptoms of liver disease of fewer than 6 weeks duration with significant history, and who were suspected with malignancies were included in this study.

**Exclusion Criteria**

Patients below 15 years, with bleeding diathesis, acute fulminant liver failure, acute massive upper GI bleed, acute hepatitis, grossly anaemic patients, with tense ascites, hepatic encephalopathy, comatose, and patients with psychosis were excluded.

The history details were noted including the nature of the symptoms, duration, progression and detailed history, detailed clinical findings, which were recorded after meticulous examination, complete blood serum including complete liver function tests, and virology, ascitic fluid

and radiological investigations and histopathological findings, and the details of other relevant investigations. And also, the details of the complications of the liver biopsy were noted.

**Statistical Analysis**

Complete data were analysed. Statistical analysis was done using SPSS-16 and MS Excel-2017 software. Chi-square test was used to test the association of categorical data, standard error of proportions to compare proportions and kappa statistics to see the percent of agreement.

**Results**

Total number of patients (N = 80) of suspected chronic liver disease were included in the study in which 50 were males (62.5 %) and 30 were females (37.5 %), mean age was 48.48 years with a standard deviation of 11.03 years ranging from 26-70 years. Most of them (72 cases) were found in the age group of 30 - 69 years, majority of them (24) were in the age group of 50 - 59 years.

Most common symptoms in this study were abdominal distension and loss of appetite in 56 (70 %) patients, followed by pain abdomen 44 (55 %), jaundice 34 (42.5 %), loss of weight 32 (40 %), pedal oedema

22 (27.5 %), fever 20(25 %) and oliguria 16 (20 %) and sleep disturbances 8 (10%). Ascites was the most common 52 (65 %) clinical finding followed by hepatomegaly 48 (60 %), icterus 38 (47.5 %), pedal oedema 34 (42.5 %), splenomegaly 28 (35 %), engorged veins over abdomen in 16 (20) %.

**Table 1: Initial complaints**

S.No	Initial complaints	No of cases (%)
1	Abdominal distension	56 (70%)
2	Loss of appetite	56 (70%)
3	Pain Abdomen	44 (55%)
4	Jaundice	34 (42.5%)
5	Loss of weight	32 (40%)
6	Swelling of feet	22 (27.5%)
7	Fever	20 (25%)
8	Decreased urine output	16 (20%)
9	Sleep disturbances	8 (10%)
10	Melena	6 (7.5%)
11	Pale colored stools	6 (7.5%)
12	Vomiting	4 (5%)
13	Hematemesis	4 (5%)
14	Pruritis	2 (2.5%)

**Table 2: Clinical Signs**

S.No	Clinical Sign	No of cases (%)
1	Ascites	52 (65%)
2	Hepatomegaly	48 (60%)
3	Icterus	38 (47.5)
4	Pedal oedema	34 (42.5%)
5	Splenomegaly	28 (35%)
6	Engorged veins over abdomen	16 (20%)
7	Scanty body hair	4 (5%)
8	White nails	4 (5%)
9	Scratch marks	4 (5%)
10	Clubbing	2 (2.5%)
11	Palmar Erythema	2 (2.5%)
12	Spider Naevi	2 (2.5%)

**Table 3: Clinical Diagnosis and Histopathology Confirmation**

Clinical diagnosis	Histological diagnosis	
	No of Cases Suspected	Confirmed
Cirrhosis	40	28
HCC	18	10
Chronic Hepatitis	12	6
Hepatoma	4	0
Secondaries	4	0
Chronic Liver Abscess	2	0
Total number of cases	80	44

**Table 4: Clinical Diagnosis-Histopathology Cross Tabulation Count**

		Histopathology				Total
		Cirrhosis	Non cirrhotic Liver disease	Other	Tumours	
Clinical Diagnosis	Cirrhosis	22	12	2	2	38
	Non cirrhotic Liver disease	8	8	2	0	18
	Others	2	0	2	2	6
	Tumours	2	2	4	10	18
	Total	34	22	10	14	80

**Discussion**

In this study of 80 patients with clinically diagnosed chronic liver disease, among which 34 (40.5 %) were cirrhotic, 22 (27.5 %) were chronic hepatitis, 10 (12.5 %) were hepatocellular carcinoma, and adenocarcinoma in 2 (2.5 %), fatty liver in 2 (2.5 %) and liver abscess in 2 (2.5 %) case, hepatoblastoma seen in a (2.5 %) 60-year-old female, which is the most common primary malignancy of liver in paediatric age and rare to occur in adults. In the present study (N - 80), alcoholic abuse was seen in 28 (35 %) patients of which 16 (61.5 %) had cirrhosis, 12 patients (42.85 %) had

non-cirrhotic liver disease and two patient was diagnosed with HCC (7.1 %). The age range of cirrhosis in the present study was 30 - 69 years[6].

The proportion of alcohol abuse was higher (35 %) in the present study population, in patients with cirrhosis 16 (61.5%) and patients with non-cirrhotic liver disease (42.85 %), contrary to patients in Mukherjee PS et al. (2017) study[7,8]. A study by Mukherjee PS et al. (2017) highlighted evolving risk factors for CLD as alcoholism and diabetes in India, like in other studies. Alcohol was the most

common cause of cirrhosis in this study, similar to our present study (2003 -2005)[9].

Comparison with trends of chronic liver disease in Gautam Ray (2014) study is shown. Increasing trends of alcohol-related disease from 2003 - 2011, and cryptogenic liver disease was also similar to this study from the year 2003 – 2007[10].

#### Conclusion

Cirrhosis is the most common chronic liver disease seen in North and Coastal Andhra, part of South India, followed by chronic hepatitis and hepatocellular carcinoma.

In patients with chronic liver disease, the most common presentations were abdominal distension and loss of appetite and the most frequent clinical findings were ascites, hepatomegaly, pain abdomen and jaundice. Clinical diagnosis of chronic liver disease should be confirmed with histopathological examination. In appropriate clinical settings, the clinical diagnosis of chronic liver disease made by experts is fairly associated with histopathological diagnosis. Liver biopsy is a safe procedure that aids in establishing the diagnosis and helps in the appropriate management of a chronic liver disease.

#### References

1. Brown RM. Pathology of neonatal liver biopsy. *Curr Diagn Pathol.* 2006;12:202–9.
2. Sabir OM. Pathologic causes of liver disease in Sudanese children: Results of 450 liver needle biopsies at a single children hospital. *Sudan J Paediatr.* 2011;11(1):38.
3. Ahmad M, Afzal S, Roshan E, Mubarak A, Bano S, Khan SA. Usefulness of needle biopsy in the diagnosis of pediatric liver disorders. *J Pak Med Assoc.* 2005;55:24–8.
4. Dhole SD, Kher AS, Ghildiyal RG, Tambse MP. Chronic liver diseases in children: clinical profile and histology. *J Clin Diagn Res.* 2015;9(7):4.
5. Hanif M, Raza J, Qureshi H, Issami Z. Etiology of chronic liver disease in children. *J Pak Med Assoc.* 2004;54:119–22.
6. Taleb AA, Ahmed A, El-Hennawy A. Pediatric Chronic Liver Diseases: A clinicopathological study from a tertiary care center. *Int J Pediatr.* 2019;7(4):9305–15.
7. Onyiriuka AN, Adeniran KA, Onyiriuka EPA. Prevalence of Hypoglycemia Among Patients Presenting with Cholestasis of Infancy in a Nigerian Teaching Hospital. *Oman Med J.* 2012;27:329–32.
8. Rajeshwari K, Gogia S. The clinical spectrum of chronic liver disease in children presenting to a tertiary level teaching hospital in New Delhi. *Tropical Doctor.* 2008;38:101–2.
9. Shibata Y, Kitajima N, Kawada J, Sugaya N, Nishikawa K, Morishima T, et al. Association of Cytomegalovirus with Infantile Hepatitis. *Microbiol Immunol.* 2005;49:771–7.
10. Hashmi SS, Bhatti ABH, Malik MI, Rana A, Nasir H, Dar FS. Spectrum of histopathological diagnosis in paediatric patients with liver disorders in Pakistan. *J Pak Med Assoc.* 2017;67(2):266–9.

**Conflict of Interest: Nil Source of support: Nil**