



## CLINICOETIOLOGICAL PROFILE OF HEPATIC CIRRHOSIS IN FEMALES WITH SPECIAL REFERENCE TO HEPATITIS B AND HEPATITIS C

### Gastroenterology

**Swikrita Talukdar**

Post Graduate Trainee, Department of Medicine, Assam Medical College & Hospital, Dibrugarh, Assam

**Subhalakshmi Das\***

Associate Professor, Department of Medicine, Assam Medical College & Hospital, Dibrugarh, Assam \*Corresponding Author

### ABSTRACT

**Background:** Cirrhosis causes a major burden in our society. Most studies have minority of female patients. Therefore, we attempted to study the etiology of cirrhosis in females with the hypothesis that chronic viral hepatitis would play a major role.

**Methods:** All consenting females with cirrhosis, satisfying the exclusion criteria, attending a referral hospital were included. Clinical details were collected. Relevant serological testing was used to classify the cause of cirrhosis.

**Results:** In the 118 patients included, mean age was 47.9±14.6 years. Commonest symptom, sign and complication was distension of abdomen (93.2%), ascites (94.9%) and portal hypertension (97.2%) respectively. Majority (48.3%) of cases presented in Child Pugh score B.

The commonest etiology for cirrhosis was alcohol(44.9%) whereas chronic hepatitis B and C accounted for 9.3% and 2.5% respectively. 16.9% cases were cryptogenic.

**Conclusion:** Alcohol was the major etiology. Chronic hepatitis were less than expected possibly due to lower risk factors.

### KEYWORDS

Cirrhosis, Etiology, Alcohol, Hepatitis

### INTRODUCTION

Cirrhosis, a final pathway for a wide variety of chronic liver diseases, is a pathologic entity defined as diffuse hepatic fibrosis with the replacement of the normal liver architecture by nodules.<sup>1</sup> It is a condition resulting from multiple etiologies, that has a variety of clinical manifestations and complications, some of which can be life threatening. The diagnosis of cirrhosis is based on the clinical features, laboratory investigations, histology and radiology.

Cirrhosis is a major cause of mortality and morbidity worldwide.<sup>2</sup> In India, mortality due to liver cirrhosis increased from 77, 741 in 1980 to 1, 88, 575 in 2010. One-fifth of global deaths in 2010 due to cirrhosis occurred in India alone.<sup>3</sup> In 2012, as per the World Health Organisation (WHO) age-standardized death rates due to liver cirrhosis in India among males and females are 39.5 and 19.6, respectively, out of which alcohol attributable fractions constitute 62.9% and 33.2%, respectively.<sup>4</sup> Thus the epidemiology of cirrhosis is characterized by marked differences between genders, ethnic groups and geographic regions. The nature, frequency and the time of acquisition of the major risk factors for cirrhosis, namely hepatitis B virus (HBV), hepatitis C virus (HCV) and alcoholic liver disease explain these variations.

Cirrhosis in women although less common than in men represent a significant burden of disease. Many studies have shown that the major risk factor for cirrhosis is viral hepatitis.<sup>5</sup> The natural history of HBV and HCV has consistently been shown to be different in women compared with men.<sup>6</sup>

The incidence and prevalence of Cirrhosis of liver is rising in Northeast India. There are few reports on the etiology of cirrhosis in females from Upper Assam. None focused on the etiology of cirrhosis in relation to all the possible etiologies simultaneously in all patients.

The study was undertaken with the following-

#### Aims and Objectives:

- To study the clinical profile of females with cirrhosis
- To study the etiological factors leading to cirrhosis in females with special reference to hepatitis B and C infection.

### MATERIALS AND METHODS

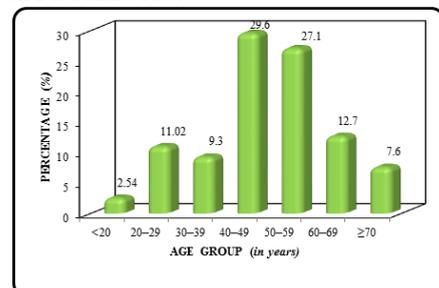
Female patients with liver cirrhosis, 13 years or above diagnosed on the basis of clinical, biochemical and radiological findings<sup>7</sup> who were admitted in Assam Medical College and Hospital, Dibrugarh during a period of one year 2016-2017 had been enrolled. A hospital based cross sectional observational study was done among these patients. Patients with significant cardiopulmonary disease, previous abdominal surgery, abdominal tuberculosis (TB), associated comorbidities like congestive cardiac failure (CCF), extrahepatic malignancies and secondary deposits in liver, Budd Chiari Syndrome and other causes of

non cirrhotic portal hypertension were excluded from the study. Clinical details were collected. Routine blood investigations and liver function tests were done. Relevant serological testing (viral markers, ferritin, transferrin saturation, ceruloplasmin, fasting lipid profile and autoantibodies [antinuclear antibody-ANA, anti-LKM (liver kidney microsome), SMA (smooth muscle antibody), AMA (anti-mitochondrial antibody) by immunofluorescence] was used to classify the cause of cirrhosis.

### RESULTS AND OBSERVATIONS

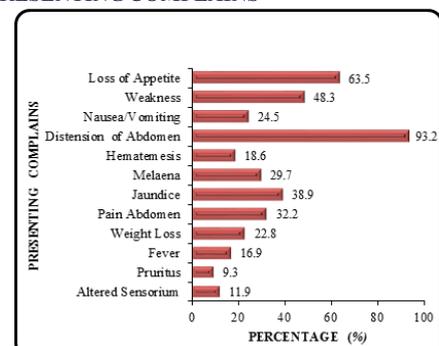
After considering all the inclusion and exclusion criteria, a total of 118 cases were studied. The results and observations of the present study are illustrated in the following tables and figures.

**Fig 1. AGE DISTRIBUTION**



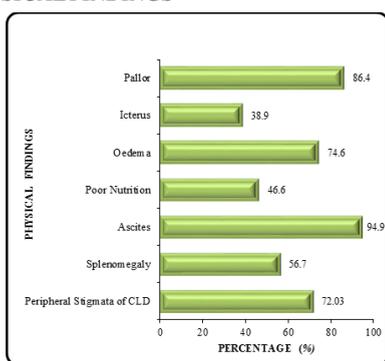
Majority of the cases (29.6%) were in the age group of 40-49 years. The mean age was 47.9±14.6 years.

**Fig 2. PRESENTING COMPLAINS**



The most common presenting complain was distension of abdomen (93.2%). The least common being pruritus (9.3%).

Fig 3. PHYSICAL FINDINGS



The most common physical finding was ascites (94.9%) followed by pallor (86.4%).

TABLE 1- ETIOLOGY OF LIVER CIRRHOSIS

Etiology	Number (n)	Percentage (%)
Alcohol	53	44.9
Chronic Hepatitis B	11	9.3
Chronic Hepatitis C	3	2.5
NASH	13	11.01
Autoimmune Hepatitis	12	10.17
Wilson Disease	4	3.4
Primary Biliary Cirrhosis	1	0.8
Hemochromatosis	1	0.8
Cryptogenic	20	16.9
Total	118	100

The most common cause of cirrhosis in the study group was Alcohol (44.9%) followed by NASH (11.01%), Autoimmune Hepatitis (10.17%), Chronic Hepatitis B (9.3%), Chronic Hepatitis C (2.5%), Hemochromatosis and Primary Biliary Cirrhosis (0.8% each). No cause could be established in 20 cases (16.9%) and they were labeled as cryptogenic.

## DISCUSSION

The present study included 118 female cirrhotic patients ranging from 16 to 85 years. The mean age was 47.9±14.6 years. It was similar to the study done by Brij Sharma *et al*<sup>8</sup> in which majority of the patients were in the age group of 40–59 years.

The most common complain was distension of abdomen (93.2%), followed by loss of appetite (63.5%), weakness (48.3%), jaundice (38.9%), melaena (29.7%), hematemesis (18.6%). The least common complain was pruritus (9.3%). Studies by R Maskey *et al*<sup>9</sup>, Ravi B. Nagarajaiah<sup>10</sup> also found abdominal distension to be the most common presenting complain.

The most common physical finding was ascites seen in 94.9% cases. R Maskey *et al*<sup>9</sup> found ascites in 84.4% cases and Robertson Timung *et al*<sup>11</sup> in 47.5% cases. The next common physical finding was pallor seen in 86.4% cases. Robertson Timung *et al* found pallor in 55% cases.

The most common cause of cirrhosis was found to be chronic alcoholism (53 cases-44.9%) followed by viral hepatitis (14 cases-13.51%) [chronic hepatitis B in 11 cases (9.3%) and chronic hepatitis C in 3 cases (2.5%)]. Alcohol was also found to be the most common cause in the studies done in the region by Sakir Ahmed *et al*<sup>12</sup> and Robertson Timung *et al*. Similar result was also found in the studies worldwide conducted by Goncalves *et al*<sup>13</sup>, R Maskey *et al*, Brij Sharma *et al* and Ravi B. Nagarajaiah.

The lower prevalence of Hepatitis B and C in the present study can be explained by the natural history of hepatitis B and C infection in females. Spontaneous clearance of the Hepatitis C virus occurs more frequently among women than men and also clearance of HBsAg was found more frequently in females than in males<sup>14</sup>. Seroconversion from HBsAg to its antibody (anti-HBe) occurs more frequently in females than in males. Female sex is also a protective factor for the progression of liver fibrosis in premenopausal but not postmenopausal women with HCV, believed to reflect the protective effect of estrogens. Moreover, presence of better health care facilities including screening of blood

before transfusion, universal precautions and universal immunization programme leading to widespread application of Hepatitis B vaccination and along with the development of better diagnosis options and improved management of patients with viral hepatitis B also contributed to the lower prevalences.

In cirrhotic cases of viral etiology, the mean patient age was decreased when those cases were associated with chronic alcoholism. The average patient age was significantly lower in the cases with HCV and chronic alcoholism compared with cases of HCV alone, which supported the premise that chronic alcoholism was an accelerating factor in the evolution of fibrosis in chronic hepatitis C.<sup>15</sup> Similarly, when with these two conditions chronic alcoholism and hepatitis B are associated, cirrhosis usually occurs more often at an earlier age.<sup>16</sup>

The most common complication was portal hypertension seen in 97.2% cases. This was similar to the study done by Suhail Ahmed Almani *et al*<sup>17</sup>.

The overall prognosis in cirrhosis is poor. In the present study, we evaluated the prognostic staging of patients with cirrhosis on the basis of Child-Pugh's classification and observed that most of the patients admitted were in Child Pugh Score of grade B (57/118 cases- 48.3%) followed by grade C (35/118 cases- 29.6%) and grade A (26/118 cases- 22%). This was similar to the study done by Yan *et al*<sup>18</sup>. Based on this scoring, grade A has a 5 year survival of 45% and grade B and C of 20%.<sup>19</sup>

## CONCLUSION

In the present study, an attempt was made to establish the etiology of cirrhosis in females. After evaluation of the cases, it was found that alcohol was the leading cause even in the female population. Chronic hepatitises were less than expected possibly due to lower risk factors and better management. Social and political awakening can thus lead to a decline in cirrhosis for women and this is the need of the hour.

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