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CLINICAL PROFILE OF CIRRHOTIC PATIENTS IN A TERTIARY CARE CENTRE IN SOUTHERN KERALA-ORIGINAL RESEARCH ARTICLE

Dr Netto George Mundadan[1].*, Dr Phiji Mathews Philipose[1], Dr Kumar Rajesh Vijay[1]

[1]Senior Resident. Department of General Medicine, Sree Gokulam Medical College and Research Institute
Corresponding author: **Dr Netto George Mundadan***. Senior Resident. Department of General Medicine, Sree Gokulam Medical College and Research Institute,
Email id: nettomundadan@gmail.com

ABSTRACT

Introduction

Cirrhosis is a pathological chronic condition of the liver which results in a spectrum of clinical manifestations. A study of various clinical manifestations of cirrhosis is needful for the easy diagnosis and early initiation of treatment which could prevent the progression and morbidity related to cirrhosis

Materials and methods

This study was conducted in 150 patients who attended out patient Department/casualty of a tertiary care centre in southern kerala. They were divided into 3 classes namely alcoholic cirrhotics, non alcoholic cirrhotics and age and gender matched controls numbering 50 in each class. The diagnosis of cirrhosis was confirmed by good quality ultrasound and the clinical features of each patient were studied carefully. The statistics were obtained and the classes were compared

Results

The commonest presenting symptom among alcoholic cirrhosis patients was fatigue (90%), followed by abdominal dissension (76%), Icterus (74%), abdominal pain (74%) and nausea/vomiting (56%)**.**The commonest presenting symptom among non alcoholic cirrhosis patients was fatigue (80%), followed by nausea/vomiting (72%) abdominal dissension (70%), abdominal pain (70%) and Icterus (66%).

Icterus was the commonest clinical sign which was seen in 74% of the alcoholics and 76% of non alcoholics whereas spider naevi was a common finding in alcoholic cirrhotics

Conclusion

The study shows that fatigue, ascites and icterus are chief clinical features in cirrhosis and anyone coming with such symptoms should be subjected to detailed liver function workup.

Keywords: cirrhosis, alcoholic, icterus, fatigue

INTRODUCTION

Cirrhosis is a pathologically defined disease affecting liver.This was first identified by Gianbattista Morgagni in his 500 autopsies published in 1761 but the name of "cirrhosis" (‘cirr’ means orange color in greek) was given by Laennec in 1826 because of the yellowish-tan color of the cirrhotic liver. Only in 1930, first theory as to the pathogenesis of this disorder was advanced by Roessle: the theory ofparenchymal degeneration, regeneration and scarring.[1,2,3]

The main microscopic findings shows the irreversible chronic insult of the liver parenchyma and include extensive fibrosis and the production of regenerative nodules.They occur due to

hepatocyte necrosis, collapse of the supporting reticulin network with subsequent connective tissue deposition, distortion of the vascular bed and the nodular regeneration of remaining liver parenchyma.The chief mechanism of liver tissue fibrosis is the activation of the hepatic stellate cell. Upon activation by factors released by hepatocytes and kupffer cells, the stellate cell assumes a myofibroblast-like conformation and, by the influence of cell derived cytokines such as transforming growth factor β(TGF beta), produces fibril-forming type I collagen.However the exact time when the fibrotic process starts is not predictable.[4]

Cirrhosis may be classified morphologically as micronodular, macronodular and mixed nodular cirrhosis as has been mentioned bt the world health organisation.[3]

ETIOLOGY OF CIRRHOSIS

InfectiousDiseases-Brucellosis,Capillariasis,Echinococcosis,Schistosomiasis, Toxoplasmosis,Viral hepatitis [hepatitis B, C, D]; cytomegalovirus, Epstein-Barr virus

Inherited and Metabolic Disorders-α1-Antitrypsin deficiency, Alagille's syndrome, Biliary atresia, Familial intrahepatic cholestasis (FIC) types 1–3,Fanconi's syndrome, Galactosemia, Gaucher's disease, Glycogen storage disease, Hemochromatosis, Hereditary fructose intolerance, Hereditary tyrosinemia,Wilson's disease

Drugs and Toxins-Alcohol, Amiodarone, Arsenicals, Oral contraceptives (Budd-Chiari), Pyrolidizine alkaloids and antineoplastic agents (venoocclusive disease)

Other Causes-Biliary obstruction (chronic),Cystic fibrosis, Graft-versus-host disease, Jejunoileal bypass, Nonalcoholic fatty liver disease, Primary biliary cirrhosis, Primary sclerosing cholangitis, Sarcoidosis[5]

CLINICAL FEATURES OF CIRRHOSIS

Spider Angiomata or Spider Nevi. - Vascular lesions consisting of central arteriole surrounded by many smaller vessels due to an increase in estradiol. These occur in about 33% of cases.[6]

Palmar Erythema. Exaggerations of normal speckled mottling of the palm, due to altered sex hormone metabolism.

Nail changes.-Muehrcke's nails - paired horizontal bands separated by normal color due to hypoalbuminemia (low production of albumin).

Terry's nails - proximal two thirds of the nail plate appears white with distal onethird red, also due to hypoalbuminemia

Clubbing --- Angle between the nail plate and proximal nail fold > 180 degrees

Dupuytren's Contracture - Thickening and shortening of palmer fascia that leads to flexion deformities of the fingers, involving the little finger and the ring finger. Thought to be due to fibroblastic proliferation and disorderly collagen deposition. It is relatively common (33% of patients).

Fetor Hepaticus. Sweet pungent smell in breath due to increased dimethyl sulfide due to severe portal-systemic shunting.

Jaundice - Yellow discoloring of the skin, eye, and mucus membranes due to increased bilirubin (at least 2-3 mg/dL or 30 mmol/L). Urine may also appear dark.

Asterixis - Bilateral asynchronous flapping of outstretched, dorsiflexed hands seen in patients with hepatic encephalopathy.

Gynecomastia - Benign proliferation of glandular tissue of male breasts presenting with a rubbery or firm mass extending concentrically from the nipples. This is due to increased estradiol and can occur up to 66% of patients.

Hypogonadism - Manifested as impotence, infertility, loss of sexual drive, and testicular atrophy due to primary gonadal injury or suppression of hypothalamic or pituitary function.

Other - Weakness, fatigue, anorexia, weight loss.

Liver Size - Can be enlarged, normal, or shrunken. Splenomegaly - Due to congestion of the red pulp as a result of portal hypertension.

Ascites - Accumulation of fluid in the peritoneal cavity giving rise to flank dullness (needs about 1500 mL to detect flank dullness)

Caput medusa - In portal hypertension, the umbilical vein may open. Blood from the portal venous system may be shunted through the periumbilical veins into the umbilical vein and ultimately to the abdominal wall veins, manifesting as caput medusa.

MAJOR COMPLICATIONS OF CIRRHOSIS

These include portal hypertension and its consequences (e.g., gastroesophageal varicesand splenomegaly), ascites, hepatic encephalopathy, spontaneous bacterial peritonitis,hepatorenal syndrome, and hepatocellular carcinoma.

MATERIALS AND METHODS

It was a Comparative (Descriptive) cross sectional study carried out between January 2016 and December 2016 in a tertiary care centre in southern Kerala. Study subjects were a group of 50 patients with alcoholic cirrhosis, a group of 50 patients with non alcoholic cirrhosis and 50 normal subjects with out cirrhosis

Inclusion criteria: All patients with cirrhosis of liver presenting to medical OPD/in patients and 50 patients without cirrhosis was taken as controls

Exclusion criteria: those who were not willing to participate in the study

Sampling Technique: Non Probability Purposive Sampling Technique

Study tool: A pre tested semi structured questionnaire was used to collect the relevant data

After obtaining the informed written consent, A thorough clinical examination and relevant laboratory investigations if needed was done. The data thus collected was entered in to a specially designed Case Record Form.

Patients were confirmed of hepatic cirrhosis by ultrasound abdomen using 3.5 MW Mechanical Probe USG machine was used to diagnose cirrhosis of liver and ascites giving special reference to caudate lobe, portal vein, and spleen..

Statistical analysis was done after entering the data in Microsoft excel and analysing using SPSS 20.0 with the statistical tests like chi square and independent t tests.

RESULTS

Totally 150 study subjects were considered for the study and among them, 50 patients with alcoholic cirrhosis, 50 patients with cirrhosis of non alcoholic etiology and 50 persons without cirrhosis as controls.

FIGURE No 1: Distribution of study subjects based on age

Age group	Groups		
	A	B	C
18 – 40 years	03 (06%)	06 (06%)	08 (16%)
41 – 60 years	33 (66%)	25 (50%)	32 (64%)
61 – 80 years	14 (28%)	19 (38%)	10 (20%)
Total	50 (100%)	50 (100%)	50 (100%)

P value<0.05

Among patients with alcoholic cirrhosis, majority of patients belong to the age group of 41 – 60 years (66%) followed by 61 – 80 years (28%) and 18 – 40 years (6%)

Among patients with Non- alcoholic cirrhosis, majority of patients belong to the age group of 41 – 60 years (50%) followed by 61 – 80 years (38%) and 18 – 40 years (6%) whereas among Controls, majority of them belong to the age group of 41 – 60 years (64%) followed by 61 – 80 years (20%) and 18 – 40 years (16%).

FIGURE No 2: Distribution of study subjects based on gender

Gender	Groups		
	A	B	C
Male	31 (62%)	26 (52%)	28 (56%)
Female	19 (38%)	24 (48%)	22 (44%)
Total	50 (100%)	50 (100%)	50 (100%)

P value<0.05

FIGURE No 3: Symptoms of the subjects in the 3 study groups

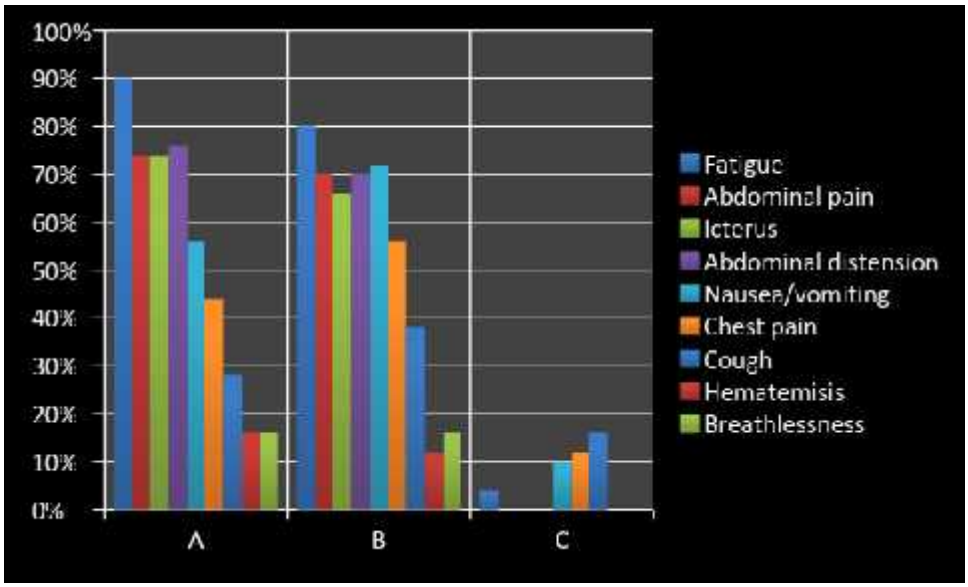

FIGURE No 4: Distribution of study subjects based on clinical symptoms

Symptoms	Groups		
	A	B	C
Fatigue	45 (90%)	40 (80%)	02 (04%)
Abdominal pain	37 (74%)	35 (70%)	00
Icterus	37 (74%)	33 (66%)	00
Abdominal distension	38 (76%)	35 (70%)	00
Nausea/vomiting	28 (56%)	36 (72%)	05 (10%)
Chest pain	22 (44%)	28 (56%)	06 (12%)
Cough	14 (28%)	19 (38%)	08 (16%)
Hematemisis	08 (16%)	06 (12%)	00
Breathlessness	08 (16%)	08 (16%)	00

P value <0.05

The commonest presenting symptom among alcoholic cirrhosis patients was fatigue (90%), followed by abdominal dissension (76%), Icterus (74%), abdominal pain (74%) and nausea/vomiting (56%)

The commonest presenting symptom among non alcoholic cirrhosis patients was fatigue (80%), followed by nausea/vomiting (72%) abdominal dissension (70%), abdominal pain (70%) and Icterus (66%),

Among controls, only few had fatigue,nausea/vomiting, chest pain and cough

FIGURE No 5: Signs in the study subjects

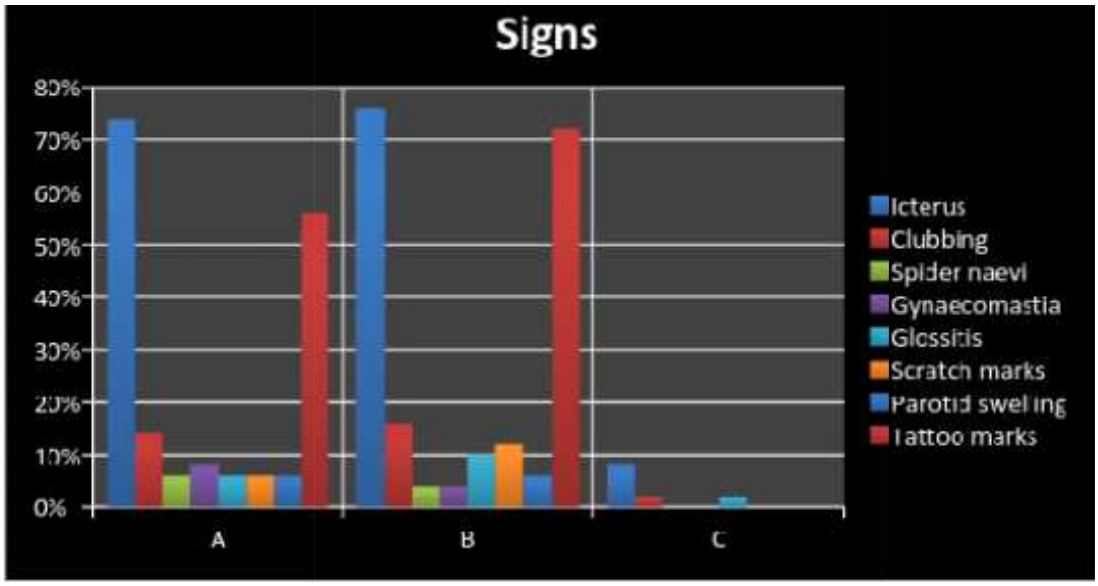

FIGURE No 6: Distribution of study subjects based on clinical signs

Signs	Groups		
	A	B	C
Icterus	37 (74%)	38 (76%)	04 (08%)
Clubbing	07 (14%)	08 (16%)	01 (02%)
Spider naevi	03 (06%)	02 (04%)	00
Gynaecomastia	04 (08%)	02 (04%)	00
Glossitis	03 (06%)	05 (10%)	01 (02%)
Scratch marks	03 (06%)	06 (12%)	00
Parotid swelling	03 (06%)	03 (06%)	00
Tattoo marks	28 (56%)	36 (72%)	00

P value >0.05

Icterus was more common among patients with non alcoholic cirrhosis (76%).Clubbing was more common among patients with non alcoholic cirrhosis (16%).Spider naevi was more common among patients with alcoholic cirrhosis (06%).Glossitis was more common among patients with non alcoholic cirrhosis (10%).Tattoo marks was more common among patients with non alcoholic cirrhosis (72%).

DISCUSSION

This study objective was to find the incidence of various clinical manifestations among patients with alcoholic cirrhosis and non alcoholic cirrhosis, hence the study was carried out considering three groups i.e patients with alcoholic cirrhosis, patients with non alcoholic cirrhosis and controls.

A total of 150 patients were considered for the study who were equally divided into three groups of 50 each.

No. of patients in different studies

In our study the no. of patients who had cirrhosis were 100, of which 50 were alcoholics and 50 non alcoholic as compared to Florence Wong et al[7] study which had 32 patients with cirrhosis and 48 as controls.

Age and Sex in different studies

Majority of patients taken in this study was between 41 to 60 yrs (90 subjects(60%),of which 33(66%) were having alcoholic cirrhosis,25(50%) non alcoholic cirrhosis and 32(64%) controls). Mean age of the Wong. F. et al [7]study was 52 ± 4 yrs. The difference may have been due to the difference in overall sample size

The cirrhotic patients(both alcoholic and non alcoholics) were predominantly males i.e.,71 cases male (71 %) to 29 cases female (29%);of which 45 had alcoholic cirrhosis and 26 had non alcoholic cirrhosis.28 of the controls were male patients. The male to female ratio in three studies of Wong .F. et al, P.Liu et al and Pozzi .M. et al[7,8,9] were 32 male cases to 3 cases female, 37 cases male to 2 cases female and 21 cases male to 6 female [28] respectively.

Clinical features in cirrhosis

The most common mode of presentation was fatigue with jaundice, abdominal distension and abdominal pain.

In this series 85% of the patients with cirrhosis gave complaints of fatigue. Of that 45 were alcoholics and 40 non alcoholics. Only 2 of our controls gave a complaint of fatigue. More than 70% of the cirrhotic patients had complaints of abdominal pain, abdominal distension and jaundice. The distribution of these among alcoholics and non alcoholics were almost similar.

50% of the patients (50 cases) of cirrhosis had complaints of chest pain of which most were retrosternal, burning type of pain and had previous episodes of the same for which they were treated as acute gastritis.

Incidence of hematemesis and breathlessness were quite low as comparable to other studies.

Clinical signs

75% of the cirrhotic patients had icterus, which were evenly distributed among alcoholics and non alcoholics.15% had clubbing with 8 of them being non alcoholics. ascites was present in 75% of the subjects of which 38 were alcoholics and 37 were non alcoholics. these findings were comparable to various studies conducted by Wong et al,P liu et al and Pizzo et al[7,8,9]

CONCLUSION

The study shows that fatigue, ascites and icterus are chief clinical features in cirrhosis and anyone coming with such symptoms should be subjected to detailed liver function workup including ultrasound and liver function tests. An enquiry into the various etiology of the condition is helpful in the management of cirrhosis

CONFLICT OF INTEREST:

None

BIBLIOGRAPHY

1. Raymond T Chung, Daniel Podolsky; Cirrhosis and Its Complications; in Harrisons Principles of Internal Medicine; 16th ed.; Page 1858-69.

2. Sheila Sherlock, James Dooley; Hepatic Cirrhosis; in Diseases of Liver and Biliary System; Blackwell Science publishers; 11th ed.; page- 368-380.

3. Anthony P.P. et al. J.Clin.Pathol. 31:395,1978

4. Detlef Schuppan and Nezam H. Afdhal. Liver Cirrhosis .Lancet. 2008 Mar 8; 371(9615): 838–851.

5. Geoffrey S. Ginsburg, Huntington F. Willard Genomic and Personalized Medicine: Vol. 1 pg 938

6. http://digestive.niddk.nih.gov/ddiseases/pubs/cirrhosis/index.htm

7. Florence wong*, Peter liu., Lesley lilly, Arieh bomzon. and Laurence ;Clinical Science (1999) 97, 259–267Role of cardiac structural and functional abnormalities in the pathogenesis of hyperdynamic circulation and renal sodium retention in cirrhosis;

8. F Wong, N Girgrah, J Graba, Y Allidina, P Liu, L Blendis. The cardiac response to exercise in cirrhosis Gut 2001;49:268–275.

9. Pozzi, M., Carugo, S., Boari, G. et al. (1997) Functional and structural cardiac abnormalities in cirrhotic patients with and without ascites. Hepatology 26, 1131±1137.