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ASSESSMENT OF LIVER FIBROSIS IN ALCOHOLIC PATIENTS BY USING FIBROSCAN IN A TERTIARY CARE HOSPITAL

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ABSTRACT **INTRODUCTION:** Alcoholic liver disease is one of the major causes of premature deaths worldwide. Alcohol induced liver injury is the most prevalent cause of liver disease and effects 10% to 20% of population worldwide. Alcoholic liver disease comprises a wide spectrum of pathological changes ranging from steatosis, alcoholicsteato-hepatitis, Cirrhosis and finally hepatocellular carcinoma. Our aims in this study are to detect this change by non invasive method by liver fibroscan and its clinical implications. **MATERIALS AND METHODS:** Total 200 patients were taken for observational study, conducted at Coochbehar Government Medical college and hospital both outpatient department and indoor patients from May 2019 to January 2020. Liver stiffness was assessed by ultrasound based method of transient elastography using Fibroscan machine. Gradation of liver stiffness was expressed in kilopascals (KPa). **RESULTS:** Maximum number of patients of alcoholic liver disease were between 40 - 49 years of age (42.5%). Male patients is 87.5% and female patients 12.5%. distribution of Rural population is 36 % and Urban population is 64%. Majority of population85 patients (42.5%) had fatty liver and 40 patients (20%) have hepatomegaly, 41 patients (20.5%) had Coarse echotexture of liver parenchyma and 54 patients (27%) had Splenomegaly, 62 patients (31%) had Nodular liver and 62 patients. It is observed that 11 patients (5.5%) had Fibroscan score ≤7.5 and 47 patients (23.5%) had fibroscan score 7.6 -9.9 and 40 patients (20%) had fibroscan score 10-12.4, 36 patients (18 %) had fibroscan score 12.5 – 14.6 and 66 patients (33%) have fibroscan score ≥ 14.7. **CONCLUSIONS:** Transient Elastography (TE) is a newer non invasive assessment technique to detect the progression of fibrosis or fibrosis in alcoholic liver disease patient. Major advantage is it is noninvasive (costeffective) so that we can early detect progression of this cirrhosis and can give efforts to halt the disease progression.

KEYWORDS : Alcoholic Liver Disease, Liver Fibrosis, Fibroscan

INTRODUCTION

Alcoholic liver disease (ALD) is the cause of about 14 million per years pre mature deaths worldwide.[1] Alcohol induced liver injury is the most prevalent cause of liver disease and affects 10–20% of the populations worldwide.[2] ALD is a complex disease with a wide spectrum of presentations ranging from simple steatosis, alcoholic steatohepatitis (ASH) that can lead to progressive fibrosis, cirrhosis, and finally hepatocellular carcinoma.[3]

WHO most recent data shows, globally, individual above 15 years of age drink on average 6.2litresof pure alcohol per year which converted into 13.5 grams of pure alcohol per day. Total consumption of alcohol across WHO and member States have wide variation.[4]

Daily alcohol intake of at least 30g and 20g for men and women respectively of ethanol, the vast majority will develop steatosis, whereas only a minority (15–40%) will develop liver fibrosis and cirrhosis.[5,6]

The role of other contributing factors in addition to the amount and the pattern of alcohol consumption, clinical factors such as sex, obesity, and, more recently, genetic factors, have been identified to explain, the discrepancies in susceptibility to the development of fibrosis and cirrhosis with life threatening complications such as hepatocellular carcinoma (HCC), liver failure and death.[7,8]

Assessment of liver fibrosis is essential in determining the prognosis and optimal treatment for patients with alcoholic liver disease and also surveillance for the development of cirrhosis and hepatocellular carcinoma.[9]

The current "goldstandard" for the assessment of alcohol-related liver injury is histology, obtained through liver biopsy. Nevertheless, it is an invasive procedure with some limitations. Firstly, it is subject to sampling errors and intra and inter-observer interpretation variability, mainly due to the small portion of liver examined. Secondly, it is associated with patient discomfort and a small but significant risk of severe complications, such as hemobilia, severe hypotension, bleeding, and mortality in 10,000 to 12,000 cases.[10,11]

Given the limitations and patients' desire to avoid invasive testing, researchers have done much work over the past 10 years to develop non-invasive tests that can measure liver fibrosis. Liver stiffness, which correlates well with liver fibrosis stage can be measured noninvasively by transient elastography, also known as fibroscan. Interms of liver-related applications, Fibroscan has been used not only to measure liver fibrosis but also to evaluate patients with portal hypertension, to assess recurrence of disease following liver transplantation, and to predict survival in patients with liver disease.

Unidimensional Transient Elastography (TE) is performed using the Fibroscanequipment which consists of a 5 MHzultrasound transducer probe mounted on the axis of avibrator. Mild amplitude and low frequency vibrations (50 Hz) aretransmitted to the liver tissue, inducing an elastic shear wave that propagates through the underlying liver tissue. The velocity of the wave is directly related to tissue stiffness.[11] The technique measures the stiffness in a cylindrical volume 1 cm in diameter and 4 cm in length, amounting to about 1/500 of the entire liver volume - 100 times larger than the volume of the liver biopsy specimen.[13,14]

With the above background, the present study has been done for Assessment of Liver Fibrosis in Alcoholic Patients by using Fibroscan in a Tertiary Care Hospital in Darjeeling, West Bengal with the objective to use Fibrosscan to detect the progression of alcoholic liver disease and Utility of Fibroscan for detection of fibrotic changes in alcoholic liver daises and as an alternate method for liver biopsy.

MATERIALS AND METHODS

The study titled "Assessment of Liver Fibrosis in Alcoholic Patients by using Fibroscan" was conducted in North Bengal Medical College & Hospital, Darjeeling.

Ethical Clearance : Ethical committee approval taken from North

Bengal Medical College Ethical Committee

Type of Study : Observational, non-interventional study.

Source of data : Department of Medicine, North Bengal Medical College & Hospital, Darjeeling.

Time line: June 2017 to April 2018.

Sample size: All diagnosed cases of Alcohol Liver Disease attended OPD (medicine) and admitted in the wards of department of Medicine, North Bengal Medical College & Hospital, Darjeeling from June 2017 to April 2018. Thus total sample size was 200.

Inclusion criteria:
All diagnosed cases of Alcohol Liver Disease attended OPD (medicine) and admitted in the wards of department of Medicine, North Bengal Medical College & Hospital, Darjeeling.

Exclusion criteria:
1. Alcoholic Liver disease with other co-morbidities such as Diabetes mellitus and hypertension.
2. Liver diseases like other cause like Viral hepatitis, NASH, Drug induced hepatitis, Hemochromatosis.
3. Decompensated liver disease, end stage liver disease.
4. Co-existing diseases liable to contribute to liver disease (diabetes, hypertension, thyroid disorders, hyperlipidaemias, vasculitis, others)
5. Patients having history of hepatotoxic drug intake
6. Occupational exposure to hepatotoxic substances.
7. Patients having Congenital liver diseases leading to hepatic fibrosis
8. Hepatotropic infectious diseases (hepatitis virus family, yellow fever, EBV, CMV etc)

STATISTICAL ANALYSIS: At the end of the study all analyses were performed using the Statistical Package for Social Sciences software version 20 (SPSS Inc., Chicago, IL, USA).

RESULTS AND ANALYSIS

The study titled "Assessment of liver fibrosis in an alcoholic patient by using fibroscan" was conducted in North Bengal Medical College & Hospital, Darjeeling, from June 2017 to April 2018. A total 200 cases of both sexes presenting with features alcoholic liver disease were taken. The results and observation of the study are presented below :

Table 1: Distribution of study population according to their sociodemographic profile (n=200)

Variable	Frequency	Percentage
Age (in years)		
20 – 29	24	12.0
30 – 39	48	24.0
40 - 49	85	42.5
50 – 59	30	15.0
> 60	13	6.5
Total	**200**	**100**
Gender		
Male	175	87.5
Female	25	12.5
Total	**200**	**100.0**
Resident		
Rural	72	36.0
Urban	128	64.0
Total	**200**	**100.0**
Duration of Alcohol consumption (in years)		
5-10	28	14.0
11-15	63	31.5
16-20	85	42.5
>20	24	12.0
Total	**200**	**100.0**
Type of alcohol consumed		
Indian made foreign liquor(IMFL)	30	15.0
Country made liquor	86	43.0
Both	84	42.0
Total	**200**	**100.0**
Pattern of drinking		
3-4 days/week	139	69.5
4-5 days/week	15	7.5
All days a week	46	23.0
Total	**200**	**100.0**
BMI of study population		
<18.5	10	5.0
18.5-25	77	38.5
25-30	111	55.5
30-35	2	1.0
>40	00	00
Total	**200**	**100.0**
Mean corpuscular volume		
<98	125	62.5
>98	75	37.5
Total	**200**	**100.0**

From table 1 it is observed that the maximum number of patients of alcoholic liver disease were between 40 - 49 years of age (42.5%). The lowest age encountered was 20 years whereas the oldest patient was 62 years in the present study series.

Gender distribution of Male patients is 87.5 % and female patients 12.5%. distribution of Rural population is 36 % and Urban population is 64%.

Among the study group 85 patients (42.5%) were taking alcohol for 16 – 20 years duration group and 63 patients (31.5%) were taking alcohol for 11- 15 years of duration group and 5 – 10 years 28 patients (14%) & more than 20 years 24 patients (12%).

Majority of the patients (139 cases, 69.5%) took IMFL and while 15 patients (7.5%) took Country made liquor and 46 patients (23%) took both Indian made foreign liquor(IMFL) and Country made liquor. Majority of population 69.5% was 3 -4 days/week, and 23% was all days /week and only 7.5% was 4-5 days/week belongs to pattern of drinking.

Majority of population of patients 111 (55.5%) of alcoholic liver disease were BMI between 25-30 and 77 patients (38.5%) having BMI between 18.5 -25 and 2 patients (1%) with BMI between 30-35 and 10 patients (5%) with BMI less than 18.5. Majority of population had MCV <98 ft in 125 (62.5%) cases and >98 ft in 75 (37.5%).

Table 2: Distribution of study population according to their White cell count, Platelet count, Bilirubin, AST level, ALT level and AST - ALT Ratio (n=200)

White cell count (cells/cu.mm)	Frequency	Percentage
<4000	91	45.5
4000-11,000	56	28.0
11,000-15,000	47	23.5
>15,000	6	3.0
Total	**200**	**100**
Platelet count (cells/cu.mm)		
<1.5 lakhs	125	62.5
1.5- 4 lakhs	75	37.5
> 4 lakhs	00	00
Total	**200**	**100**
Bilirubin (mg/dl)		
<2	71	35.5
2-3	18	9.0
>3	111	55.5
Total	**200**	**100**
AST level (U/l)		
<60	38	19.0
60-119	41	20.5
120-400	121	60.5
>400	00	00
Total	**200**	**100**
ALT Level(U/L)		
<70	64	32.0
70-139	131	65.5
140-400	5	2.5

>400	00	00
Total	**200**	**100**
AST-ALT Ratio		
<1	16	8.0
1-2	133	66.5
>2	51	25.5
Total	**200**	**100**

From **table 2**, it is observed that majority of population had White cell count <4000 in 91 patients (45.5%), 4000 – 11,000 in 56 patients (28%) & 11,000 – 15,000 in 47 patients (23.5%) & more than 15,000 in 6 patients (3%).

Majority of population had 125 patients (62.5%) have thrombocytopenia (<1.5 lakh cells/cu.mm) and 75 patients (37.5%) have platelet count 1.5 – 4 lakhs cells/c.mm and none had thrombocytopenia platelet count > 4 lakhs/cu.mm. majority of the population has Bilirubin level >3 i.e. 111 (55.5%). AST level (40-60 u/l) in 38 patients (19%) & 61 -119 u/l in 41 patients (20.5%) and AST 120-400 u/l in 121 patients (60.5%). From table 13 and figure 13, it is observed that ALT level were raised ALT>70 u/l in 64 patients (32%) and ALT 71 – 139 u/l in 131 patients (65.5%), ALT 140-400 u/l in 5 patients (2.5%). AST-ALT Ratio was <1 in 16 patients (8%) & 1-2 in 133 patients (66.5%) &>2 in 51 patients (25.5 %).

Table 3: Distribution of study population according to their Prothrombin time, Serum albumin level, Serum Alkaline phosphatase, Ultra sonography and UGI Endoscopy (n=200)

Pro-thrombin time (in seconds)	Frequency	Percentage
10-18	118	59.0
19-22	82	41.0
>22	00	00
Total	**200**	**100**
Serum Albumin (g/dl)		
>3.5	92	46.0
2.7 -3.5	48	24.0
<2.7	60	30.0
Total	**200**	**100**
Alkaline phosphatase		
<50	51	25.5
50-150	58	29.0
150-200	90	45.5
>200	1	0.5
Total	**200**	**100**
USG finding (*Multiple responses)		
Fatty changes	85	42.5
Hepatomegaly	40	20
Coarse echo texture of liver parenchyma	41	20.5
Splenomegaly	54	27
Nodular Liver	62	31
Portal vein >14 mm	62	31
UGI Endoscopy		
Normal	82	41.0
Ulcer	58	29.0
Erosion	34	17.0
Varices	26	13.0
Total	**200**	**100**

From **table 3**, it is observed that it is observed that 118 patients (59%) with PT level is 10-18 & in 82 patients (41%) PT levels 19 – 22 (prolonged). Serum albumin was more than 3.5 gm/dl in 92 patients (46%), less than 3.5 gm/dl in 60 patients (30%). majority of population 45.5% had Serum Alkaline phosphatase between 150-200 & 29 % had Serum Alkaline phosphatase between 50-150 and only 25.5% had less than 50.

Majority of population85 patients (42.5%) had fatty liver and 40 patients (20%) have hepatomegaly, 41 patients (20.5%) had Coarse echotexture of liver parenchyma and 54 patients (27%) had Splenomegaly, 62 patients (31%) had Nodular liver and 62 patients (31%) had portal vein >14 mm. Majority of population82 patients (41%) have Normal upper G.I. endoscopy, 58 patients (29%) have Ulcer and 34 patients (34%) have Erosion, 26 patients (13%) have Varices

Table 4: Distribution of study population according to their Liver fibrosis stages METAVIR Score (n=200)

METAVIR SCORE	FIBROSCAN VALUE Median stiffness(kpa)	FIBROSIS STAGE
F0	<7.5	No fibrosis
F1	7.5 -9.9	Fibrosis with septa
F2	10-12.4	Fibrosis with few septa
F3	12.5-14.6	Numerous septa without cirrhosis
F4	>14.7	Cirrhosis

Table 5: Distribution of study population by Fibro-scan score (n=200)

Fibro-scan score	Frequency	percentage
≤7.5	11	5.5
7.6 – 9.9	47	23.5
10 – 12.4	40	20.0
212.5 -14.6	36	18.0
≥14.7	66	33.0
Total	**200**	**100**

From **table 5**, it is observed that 11 patients (5.5%) had Fibroscan score ≤7.5 and 47 patients (23.5%) had fibroscan score 7.6 -9.9 and 40 patients (20%) had fibroscan score 10-12.4, 36 patients (18 %) had fibroscan score 12.5 – 14.6 and 66 patients (33%) have fibroscan score ≥ 14.7

Table 6 : Distribution of Fibroscan score by duration of Alcohol intake (n=200)

Fibroscan score ↓	Duration of alcohol intake								Total	
	5-10		11-15		15-20		>20			
	n	%	n	%	n	%	n	%	n	%
≤7.5	5	2.5	3	1.5	3	1.5	0	0	11	5.5
7.6 – 9.9	14	7.0	20	10.0	10	5.0	3	1.5	47	23.5
10 – 12.4	6	3.0	16	8.0	16	8.0	2	1.0	40	20.0
12.5 -14.6	1	0.5	7	3.5	24	12.0	4	2.0	36	18.0
≥14.7	2	1.0	17	8.5	32	16.0	15	7.5	66	33.0
Total	**28**	**14.0**	**63**	**31.5**	**85**	**42.5**	**24**	**12.0**	**200**	**100**

X^2=51.921*df*=12 *P*=0.001

From table 6 Fibroscan score by duration of alcohol intake of study population, it is observed that majority of study population 85 (42.5%) belongs to 15-20 years of duration of alcohol intake followed by 63 (31.5%) belongs to 11-15 years of duration of alcohol intake and 28 (14%) belongs to 5-10 years of duration of alcohol intake and only 24 (12%) belongs to more than 20years years of duration of alcohol intake, Fibroscan score was significant associated with duration of alcohol intake of study population with chi -square test value χ^2=51.921*df*=12 *P*=0.001.

Table 7: Distribution of Fibroscan score by Bilirubin level (n=200)

Fibroscan score	Bilirubin level						Total	
	<1		1-2		>2			
	n	%	n	%	n	%	n	%
≤7.5	10	5.0	0	0	0	0	10	5.0
7.6 – 9.9	42	21.1	4	2.0	1	0.5	47	23.6
10 – 12.4	10	5.0	9	4.5	21	10.6	40	20.1
12.5 -14.6	3	1.5	2	1.0	31	15.6	36	18.1
≥14.7	5	2.5	3	1.5	58	29.1	66	33.2
Total	**70**	**35.2**	**18**	**9.0**	**111**	**55.8**	**200**	**100**

From table 7, distribution of Fibroscan score by Bilirubin level, it is observed that majority of study population 111 (55.8%) had bilirubin level more than 2 and 70(35.2%) had bilirubin level less than 1 only 18 (9%) had bilirubin level1-2. Fibroscan score was significant associated with bilirubin level of study population with chi -square test valueχ^2=132.948*df*=8*P*=0.001

DISCUSSION

Alcoholic liver cirrhosis is the major cause of life lost worldwide every year and is the single most important cause of liver-related death.[1,15]

Alcoholic liver disease has higher mortality than liver disease of any other etiology, and although abstinence improves survival, this effect

is most pronounced in early stages.[16,17]

Consequently, there is an urgent need to strengthen detection with more accuracy of advanced fibrosis with in care and improve community methods for screening people at high risk, as this will allow for timely alcohol rehabilitation and future antifibrotic therapies.[18,19]

In our study we found that, most of studied patients (n=200) 128(64%) were Urban residents. This distribution is likely due to the fact that the study was done in a tertiary care hospital in the city of Siliguri. Similar demographic distribution of population is seen in the study done by Benegal et al, [20]Gururaj et al (2006a)[19]and Varma et al[22].

In the present study majority of population 85 (42.5%) belonged to age group (40-49 years) followed by 48 (24%) belonging to the age group of (30-39 years), 30 (15%) belonging to the age group of (50-59 years), 24 (12%) belonging to age group (20-29 years) and only 13 (6.5%) belonged to the age group of more than 60 years.

Study conducted by Nitya Nand et *al.* 2015[23] showed mean age of patient's to be 46.2±9.86, similar to our study.

In the present study majority of the patients 87.5% were male.

Similar to our study on drinking patterns among women conducted by Wilsnack, S. et *al*[24], shows that women drink less than men In the present study types of alcohol consumed by study population (n=200) shows majority of study population consumed Indian made foreign liquor(IMFL) 139 (69.5%) followed by both IMFL & country made liquor by 46 (23%) and country made liquor was consumed by only 15(7.5 %) of study population.

Similar to our study commonly consumed alcohol beverages was conducted by Singh et al (1998a),[25] observed that Indian made foreign liquor(IMFL) were commonly consumed alcohol beverages.

In our study Pattern of alcohol drinking of study population (n=200) shows majority of population 139(69.5%) belong to 3-4 days/week and 46 (23%) belong to All days a week and only 15 (7.5%) of study population belong to 4-5 days/week. In the present study Pattern of alcohol drinking done by Guptaet al (2003)[26] shows that 12% consumed alcohol less than once in a month, while 16%, 21%, 18% and32% consumed alcohol for five days a month, less than three days a week, 4–5 days a week and all six days a week.

In our study BMI of study population shows majority of population 111(55.5%) was belong to 25-30 group and 77 (38.5%) of study population belong to 18.5 – 25 group and 10 (5%) belong to less than 18.5 and only 2 (1%) of study population belong to 30-35 group.

Similar to our study BMI of study population Bloomer JR, et al[27], shows body mass index (BMI) was strongly related to liver disease in men, with some evidence of a relation in women.

In the present study Mean corpuscular volume (MCV) of study population (n=200) shows majority of population 125 (62.5%) had MCV less than 98 ft and 75(37.5%) had MCV more than 98.

Similar to our study of MCV in study population was done by Ardhendu Kumar Sen et al 2017 [28], had found mean MCV level 95.60±6.73ft & 98.3±6.43ft.

In the present study of Bilirubin level in alcoholic patients in study population (n=200)

Majority of population111 (55.5%) have significant high level of bilirubin followed by 71(35.5%) bilirubin level less than 2 and only 18 (9%) have bilirubin level 2-3.

Similar study of bilirubin level in alcoholic patients done by Swati Hegda et *al.*2015[29], with mean bilirubin level was 5.78 mg/dl in alcoholic patients, significant positive correlation was observed with our study.

In the present study we found that, most of AST level in study population had significant high level (120-400 U/I) in majority of population 121 (60.5%) followed by (60-119 U/I) in 41 (20.5%) of population and only 38(19%) of population had AST level (45-60 U/I) and none of more than 400 U/I AST.

Our results were in accordance with another study by Pohl A, et al[30] showed that the severity of liver fibrosis and subsequent cirrhosis was significantly correlated with higher AST.

In the present study we found that, most of ALT level in study population(n=200) had significant high level (70 - 131 U/I) in majority of population 131 (65.5%) followed by (< U/I) in 64 (32%) of population and only 5 (2.5%) of population had ALT level (140-400 U/I) and none of more than 400 U/I ALT level.

Similar study by Ardhendu Kumar Sen et al 2017[28], similar result was found with our study with mean ALT level 81.65±37.59 U/I.

In the present study we found that, most of AST - ALT Ratio in study population (n=200) had significant high level more than 2 in of population 51(25.5%) followed by 1-2 in 133 (66.5%) of population and only 16 (8%) of population had AST-ALT ratio level less than 1.

Harinasuta *et al*[31]. in 1967 first reported AST/ALT ratio in alcoholic liver disease is, in fact, predominantly found in patients whose disease is advanced. In patients with increased serum aminotransferase activity, the predominance of AST over ALT in alcohol-related liver disease.

In the present study, Prothrombin time are arranged according to Child – Pugh Classification of cirrhosis. it is observed that majority of patients118 (patients) (59%) with PT level is 10-18 &followed by 82 patients (41%) PT levels 19 – 22 (prolonged).

Our results were in accordance with another study was done by Ardhendu Kumar Sen et al 2017[28], found mean PT was 17.30±4.65.

In the present study, Serum albumin intervals are arranged according to Child -Pugh Classification of cirrhosis. It is observed that serum albumin was more than 3.5 gm/dl in majority of patients 92 (patients) (46%) and followed by less than 3.5 gm/dl in 60 patients (30%).

Our results were in accordance with another study was done by Praveen Malhotra et *al.* 2013[32], found that mean serum albumin was 2.79±0.62gm/dl.

In the present study, it is observed that majority of patients 85(patients) (42.5%) have fatty liver and followed by 40 patients (20%) have hepatomegaly & 41 patients (20.5%) have Coarse echotexture of liver parenchyma and 54 patients (27%) have Splenomegaly, 62 patients (31%) have Nodular liver and 62 patients (31%) have portal vein >14 mm.

Our results were in accordance with another study was done by Praveen Malhotra et *al.* 2013[32], with USG finding Coarse echotexture of liver parenchyma in 67.16%.

In the present study, it is observed that distribution of study population by UGI Endoscopy is variable, majority of study population 82 patients (41%) have Normal upper G.I. endoscopy, 58 patients (29%) have Ulcer and 34 patients (34%) have Erosions, 26 patients (13%) have Varices.

The results also coincide with that is recorded by Ardhendu Kumar Sen et al 2017[28], found Ulcer in 7.6%, Erosions in 21.9%, Varices in 56%.

In our study of White cell count in majority of population 91(45.5%) the WBC count was in range of less than 4000 and 56 (28%) of population, the WBC count was in range 4000 -11,000 and only 6 (3%) of population have WBC count more than 12,000.

Comparable result was seen in study done by Praveen Malhotra et *al.* 2013[32], who has shown that WBC count was in normal range in 63.68% patients and 35.82% patients had leukocytosis.

In our study Platelet count in study population (n=200) shows majority of study population 125(62.5%) had thrombocytopenia (less than 1.5 lakh /cu.mm) and none had thrombocytopenia (more than 4 lakh cells/cu.mm).

Similar result was observed in a study done by Pathak OK et al 2009[33], in this study thrombocytopenia was found in 51.9% patients and the mean platelet count was $162.49\pm89.23\times10^3$ cells/cu.mm.

In the present study of distribution of study population(N=200) by Fibroscan score, it is observed that 11 patients (5.5%) have Fibroscan score ≤7.5 and 47 patients (23.5%) have fibroscan score 7.6 -9.9 and 40 patients (20%) have fibroscan score 10-12.4, 36 patients (18 %) have fibroscan score 12.5 – 14.6 and 66 patients (33%) have fibroscan score ≥ 14.7

In correlation study between FIBROSCAN SCORE and DURATION OF ALCOHOL INTAKE, was significant association with chi -square test value X^2=51.921 *df*=12 *P*=0.001. In correlation study between FIBROSCAN SCORE and SERUM BILIRUBIN had significant results with chi -square value X^2=132.948 *df*=8 *P*=0.001. In correlation study between FIBROSCAN SCORE and AST had significant results with chi -square value X^2=184.406 *df*=8 *P*=0.001. In correlation study between FIBROSCAN SCORE and ALT had significant results with chi -square value X^2=122.553 *df*=8 *P*=0.001. In correlation study between FIBROSCAN SCORE and AST – ALTRATIO had significant results with chi -square value X^2=88.557 *df*=8 *P*=0.001. In correlation study between FIBROSCAN SCORE and SERUM ALBUMIN had significant results with chi -square value X^2=125.111 *df*=8 *P*=0.001

CONCLUSION:

Transient Elastography (Fibroscan) is a novel noninvasive method for assessment of liver fibrosis in alcoholic liver disease, mainly to identify patients with fibrosis, so that efforts may be made to prevent the development of cirrhosis, and to identify patients with cirrhosis and abstinence from alcoholism, enabling a better monitorization for the development of complications such as esophageal varices and HCC. The results may be influenced by factors other than the degree of fibrosis present in the liver, mainly acute alcoholic hepatitis. The current drinking pattern is also relevant. Prospective studies performed on large groups of biopsied patients are, however, necessary, to establish the optimal cut-off values of LS (liver stiffness) and CAP (controlled attenuation parameter) for the prediction of each fibrosis and steatosis grade.

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