Study of Clinical Profile of Non Alcoholic Fatty Liver Disease Diagnosed By Ultrasonography

Aijaz Bhurgri[1], Kashif Aziz Siddiqui[2]

[1]Bilawal Medical Collage, LUMHS
[2]Isra University, Hyderabad
Aijaz.burghi@gmail.com

Abstract: Background & Objective: Non-alcoholic fatty liver disease (NAFLD) is a main reason of CLD. NAFLD may advance towards fibrosis, cirrhosis, liver failure and hepatocellular carcinoma, like alcoholic fatty liver disease (AFLD). The objective of the present research was to study the clinical profile of non-alcoholic fatty liver disease diagnosed by ultrasonography. **Material and Methods**: The observational study was conduct at the Department of Radiology, Isra University, the patients diagnosed as NAFLD. Simple random sample pattern was carried out among 100 patients aged 30 to 55 years old identify of Non-alcoholic fatty liver disease in this study was formed on by sonographic of a fatty liver. **Results:** 60% of patients of NAFLD had abnormal clinical profile was found. A level of Total cholesterol, alanine aminotransferase (ALT), and triglyceride and HDL cholesterol was an increased and abnormality as the severity of fatty liver increased. **Conclusions:** Abnormal levels of clinical profile are risk factors for NAFLD. Therefore it is suggested that ultrasonography of the liver requisite portion of the regular health checkup of patients. Prompt findings may support in varying the disease progress, conceding obstacles and may similarly play a main part in preventive complications.
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1. Introduction

Non-alcoholic fatty liver disease (NAFLD) has been familiar equally the main communal liver disease. NAFLD arises in approximately 40% obese and 15% overweight subjects. High prevalence of NAFLD was found while it arisen in relationship by type-II diabetes. It remained assessed that by 2020 number of people having type-II Diabetes may range upto100 million, unexpectedly 60% of whom will live in Asia [1-4]. NAFLD being a disease occurs predominantly in male patients who are prone to hypertension, obesity and diabetes mellitus. Hardly fewer ultrasound based studies have been reported in NAFLD patients. The disease is exposed whichever through repetitive laboratory checkup or once the patient is investigated[5, 6] for conditions like Diabetes mellitus, hypertension, combination of both diabetes and hypertension and obesity[7]. It is known that long term ingestion of alcohol causes lipid profile abnormalities. The extra liquor indicates to elevated oxidative stress, cell membrane permiability, cell necrosis and leakage of mitochondrial AST in to blood.[8]

The objective of the present research was to study the clinical profile of non-alcoholic fatty liver disease diagnosed by ultrasonography.

2. Material and Methods

The observational study was conduct at the Department of Radiology, Isra University, the patients diagnosed as NAFLD. Simple random sample pattern was carried out among 100 patients aged 30 to 55 years old identify of Non-alcoholic fatty liver disease in this study was based on sonographic signs of a fatty liver and compared with healthy age and sex matched controls.

Inclusion & exclusion criteria

For AFLD, cases with history of alcoholism with clinical evidence of fatty liver were included. Detail history of alcohol intake was taken in every patient.

For NAFLD, cases with history of alcohol intake were excluded from study.

Patients with diabetes mellitus, nephrosis, thyroid dysfunction, HIV patients, chronic smokers and those taking the drugs were excluded from the study.

3. Results

Table 1. Clinical Profile of NFLD in patients & Controls

Parameters	Patients	Healthy Controls
Age	21.3 ± 0.9	25.8 ± 0.7
BMI	19.3 ±2.1	17.2 ±4.2
Triglyceride	35±5.1	25±3.3
Cholesterol	125±2.5	117±1.3
Triglyceride	55.3±5.0	35.1±3.2
HDL	45±2.5	35±1.2
ALT	22.4±9.1	11.9±7.1

The levels of total cholesterol, triglyceride, HDL, AST and ALT were significantly increased in NAFLD and decreased in controls when compared to controls in table and figure 1.

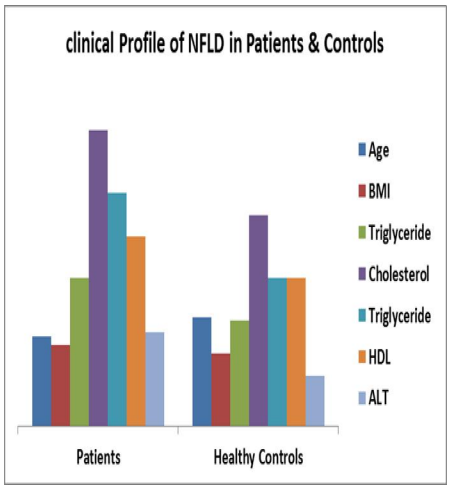

Figure 1. Clinical Profile of NFLD In patients & Controls

3. Discussions

Patients with NAFLD have increased liver related mortality and morbidity throughout world. NAFLD occurs in about twenty five percent of obese and seven percent of overweight subject[9]. The austerity of ALD not only depends on the amount of alcohol consumption but also depends on genetic and environmental factors[10]. Infect the typical of elongated period sturdy drinker's progression the fatty liver, then merely 15-45% progression of hepatitis and only 820% will progress to cirrhosis[11]. Aminotransferases are sensitive indicator of hepatocytes injury. The form of aminotransferases rise, i.e. Deritis ratio can be helpful diagnostically[12]. In the present study of NAFLD, increased serum total cholesterol, TG, LDL and decreased HDL were seen when compared to controls. The result obtained in present study was in agreement.[13, 14], that reported hyper triglyceridemia (63.7%), hypercholesterolemia (50.80%), increased VLDL, LDL and decreased HDL levels For NAFLD[15]. In the present study of AFLD total cholesterol, LDL and HDL levels were decreased and TG levels were increased when compared to controls. The result obtained in the present study was in covenant with many studies [16,17] who reported reduced levels of total cholesterol, HDL, LDL and increased levels of TG in alcoholic cirrhotic and alcoholic liver disease patients. However, in contrast to this some other studies revealed that serum TG levels decreased in alcoholic liver disease[18]. Hypolipidemia is expected in alcoholic liver disease due to liver biosynthesis is reduced[19]. In the present study, AST and ALT levels were increased in NAFLD cases when compared to controls but these elevated levels were statistically nonsignificant and AST/ALT ratio was also non-significant in NAFLD when compared to controls. In another study[20] who reported significant raised levels of ALT as well as AST among NAFLD patients, when compared to controls but ratio of AST/ALT was not significant. The liver enzymes are poor measures of NAFLD. Although elevation of serum transaminases is common in NAFLD, normal values can be found in upto 78% of patients even in the presence of histologic findings. The whole spectrum of clinicopathologic features of NAFLD may exist without elevation of transaminases[21]. In this present study, AST, ALT levels and Deritis ratio were increased in AFLD when compare to controls and NAFLD. The result obtained in the present study was in covenant with the study[22-23] who showed increased levels of lipid profile.

Conclusion

In conclusion there is a significant dyslipidemia seen in NAFLD. NAFLD patient showed atherogenic dyslipidemia when compared to AFLD. Abnormal levels of clinical profile are risk factors for NAFLD. Therefore it is suggested that ultrasonography of the liver requisite portion of the regular health checkup of patients. Prompt findings may support in varying the disease progress, conceding obstacles and may similarly play a main part in preventive complications.

Corresponding Author:
Dr. Aijaz Bhurgri
Assistant Professor
Bilawal Medical Collage, LUMHS
Aijaz.bhurghi@gmail.com

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