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ORIGINAL ARTICLE

Clinical Symptomatology and Laboratory Diagnosis of Nonalcoholic Chronic Fatty Liver Disease

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ABSTRACT

Background: One of the leading causes for hepatocellular carcinoma is Nonalcoholic fatty liver diseases (NAFLD) that also increases incidence of mortality rates.
Aim: To understand alterations biochemically and clinically in patients suffering from NAFLD since they are at stake of cirrhosis as well as nonalcoholic steatohepatitis (NASH) in case of Pakistani population.
Methods: Patients suffering from NAFLD were selected for these case reaches that were all confirmed via ultrasonography. Candidates were tested negative for autoimmune or viral hepatitis serologic markers, no record was found with respect to liver disease related to metabolism, moreover candidates were also not administer any medication that has its impact on liver like Ursobil. Clinically and biochemically all the patients were tested for history, signs and symptoms and they depicted variables.
Results: A enrollment of 80 candidates was carried out that included 38 female and 42 male, owing mean age of 40.4 years. The candidates with no diabetes and obesity were 26.4% and 18.3%, respectively. Late dinner sleep disorders and delayed sleep were the most detectable reasons in patients suffering from NAFLD. Moreover, thirst sensation, anxiety, bloating, and upper abdominal pain, warming sensation and defecation disturbances, were seen common in case of patients suffering from NAFLD.
Conclusion: NAFLD is regarded as heterogeneous pathology with variety of clinical findings. It has been experienced that gastrointestinal problems as well as anxiety are most frequently seen in patients suffering from NAFLD.
Keywords: NAFLD, hepatocellular carcinoma, cirrhosis

INTRODUCTION

One of the chronic, common and broad range nonalcoholic steatohepatitis (NASH) is nonalcoholic fatty liver disease (NAFLD). Clinically, NAFLD is an indicator of fats deposition on surface of liver. In liver Weight that exceeds 6% in case of liver has hepatotoxic impact and could result in damage to liver. NAFLD is regarded as complex condition metabolically and has been a leading cause of liver mortality and morbidity associated to risk factors linked with lifestyle and genetics. This pathology has variety of spectrum histologically leading to an advanced hepatic injury, known as NASH. It has been documented that about 15%- 30% population suffering from NASH sufferers are at stake to develop advanced liver fibrosis with in small duration of time[2]. The incidence of NAFLD and its linked risk factors may depict various signs and symptoms in different geographical locations .The researches based on population with respect to incidence of NAFLD along with its risk factors in case of population of Pakistan. The incidence of NASH and NAFLD in case of population of Pakistan is recorded about 6% and 3% respectively in case of general population and 57.2% in case of patient suffering from type 2 diabetes mellitus [7].NAFLD is regarded as heterogeneous pathology with number of abnormal pathways; that's why , it is thought that NAFLD/NASH to have variety of manifestations clinically. In traditional medicine, it has been documented that liver related pathologies might are the reasons for variety of signs and symptoms, which may not be linked with liver itself. In reality, In fact, there is no particular sign and symptom related to NASH that depict the advancement of disease in patients [3]. Hence the recent case reach targeted at identification of signs and symptoms clinically in case of patients suffering from NASH. Some noninvasive scores in order to diagnose advanced stage of fibrosis were also present in case reseach that were not valid for all patients who were presented with fatty liver as detected by ultrasound without other pathologies related to liver.

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RESULTS

During the investigation about 80 patients were chosen for case research. The mean ±SD age of the selected patients was 40.4 years. Moreover, 54.6% patients who participated were males gender wise .In terms of BMI mean value was 32±2.3; also 18.2% showed no signs of obesity whereas 26.4 % candidates reported diabetes mellitus. The summarized characteristics of the candidates are given in Table 1. NAFLD, nonalcoholic fatty liver disease; ALT, alanine aminotransferase; FBS, fasting blood sugar; HOMA-IR, homeostatic model assessment insulin resistance AST, aspartate aminotransferase; with respect to the clinical presentations, the commonest complain was pain in upper abdomen, anxiety, thirst and fatigue. The manifestations that were common are represented in Table 2. Moreover, many patients also complain of late onset of sleep accompanied by late night.

Table 2. Clinical Manifestations of Patients with NAFLD

Variables	NAFLD (%)
Upper abdominal pain	34.2
Morning heaviness	70.1
Sleep onset after midnight	64.2
Quality of sleep	
Very Good	25.3
Good	43.7
Not Good	24.5
Bad	6.6
Sleep duration ≤6h	15.5
Time to falling asleep (≤10min)	31.4
Sleepiness during day	
No	40.2
Less than One Hour	35.6
More than One Hour	24.6
Extra ear sound	36.1
Nausea	12.2
Headache	44.4
Decrease of appetite	29.1
Thirsty	88
Degrees of anxiety	82
Bloating	
Absent	27.1
Mild	17.2
Moderate	33.7
Sever	20
Disguise	21.2
Warming sensation	66.2
Palpitation	29.3

Table 1. The Basic Characteristics of Patients with NAFLD

Variables	NAFLD
Age (year) Mean±SD	40.4
BMI (kg/m2)	32.2
Diabetes (%)	26.4
Hypertension (%)	37.0
Triglyceride (mg/dL) mean±SD	208 ± 28
Total cholesterol (mg/dL) mean±SD	201±22
Hypertriglyceridemia (≥200 mg/dL), %	39.9
Hypercholesterolemia (≥200 mg/dL), %	41.6
High-density lipoprotein, (mg/dL) mean±SD	44 ± 26
Low-density lipoprotein, (mg/dL) mean±SD	68± 38
Systolic blood pressure (mmHg) mean±SD	119 ± 16
Diastolic blood pressure (mmHg) mean±SD	81.3 ± 13
ALT (U/L) mean±SD	64.0 ± 39
AST (U/L) mean±SD	61 ± 42
Bilirubin total (mg/dl) mean±SD	0.7 ± 0.3
Insulin level (µU/ml) mean±SE	19.16 ± 18
Total Albumin (g/dl) mean±SD	3.9± 0.3

DISCUSSION

The degree of severity of biochemical and clinical NAFLD case presentations is still under considerations[1]. On the basis of past researches , most patients owing NAFLD were presented with no symptoms and patients were only detected when serum liver enzymes levels depicted abnormal values during generalized health checkups [5]. The issue of this liver pathology was diagnosed during ultrasonic investigations and then after medical consultation it was depicted that signs and symptoms might be linked with the NAFLD[6,9].

In recent case research, the most common complaint by patients was thirst, anxiety, bloating and feeling of temperature changing. Moreover, upper abdominal pain, especially on left upper quadrant, was also most common complains by patients. The quality of pain located on the upper abdomen was either dull or sharp reported. The symptoms experience by patients like disguise, bloating, headaches and thirst were also present before patient made any consultation with doctor medically and were usually diagnosed by doctors as reflux disease and dyspepsia. Sleeping pathologies were also prominent among these patients. In present, many attempts are being done in order to investigate the sleep quality effects as well as quantity of sleep in the onset of development as well as progression of chronic diseases and inflammation. In case of NAFLD, this is a recent issue, but it has its roots with respect to traditional medicine; since it been mentioned in various reference researches. It is important to note that in case of present case, the males were more in number. Nevertheless, in many case researches, females were dominant; while in case of recent researches, males' population was noteworthy. This could be linked to dietary patterns and life style changes. Moreover, some researches depicted that stress might be an important contributory factor in progression of NAFLD and hence more common in males due to daily stress[11]. Moreover, obesity was regarded as most common contributory factor and the past case reaches documented that 35% to 90% of the patients were obese who were suffering from NAFLD. Many case researches depicted a positive relationship between BMI, NAFLD, WC and NASH[10]. There is link of obesity with metabolic syndrome as well as with sleeping disorders (as due to obesity, chronic fatigue seems to be a prominent symptom) are all reported as NAFLD clinical presentations. BP regarded as output clinical manifestation of NASH and metabolic syndrome. In the present case research, the mean value of BP was seen normal (120/80mmHg) since exact reading cannot be obtained due to limitation in patients participation in this case research. In case of former case researches, the incidence of DM accompanied by other factors, like higher value of BMI, advanced age and hypertension, were linked with NAFLD/NASH severity. In the present case, with respect to Table 1, BMI and the mean age with NAFLD were 40 years, respectively; the incidence of DM was 24%, reported. It seems obvious that the age onset of NASH and NAFLD might be lessened, as documented by some case researches[12]. Many studies associated with population-based researches depicted the increase in trend of NASH and NAFLD associated with age[8].

CONCLUSION

However it has been observed that fatigue is a most common complaints of all other complains, it is therefore important that physician must take it seriously along with patient other signs and symptoms.

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