

Non Alcoholic Fatty Liver Disease (NAFLD) – An Emerging Challenge

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A rapidly emerging cause of Chronic Liver Disease (CLD) is Non-alcoholic Fatty Liver Disease (NAFLD). In the West, the prevalence of NAFLD is as high as 30% and it is postulated that it may affect one-third of the population by 2030 [1]. Various studies have shown that the prevalence of NAFLD in Pakistan ranges from 14% to 47% [2].

The spectrum of liver damage in NAFLD is wide-ranging and essentially involves non-alcoholic causes of fat accumulation in the cells of the liver. This can also occur in other conditions where there is more than 5% steatosis. These conditions include chronic liver disease (CLD) caused by drugs (such as Methotrexate, Amiodarone, Tamoxifen etc.) or viruses (such as HCV), exposure to environmental toxins, malnutrition, hemochromatosis, Wilson's disease, and any autoimmune disease triggering 5% steatosis [3].

There is a strong association of NAFLD with obesity (in more than 40% of patients) [4], hypertriglyceridemia (in 20% or more), diabetes mellitus (in 20% or more), and insulin resistance – all components of the metabolic syndrome [5]. Over the last two decades, rising trends of DM, obesity and insulin resistance have gone hand in hand with increasing prevalence of NAFLD [6]. Pakistan has a 17.1% incidence of Type-2 diabetes and a 14% incidence of NAFLD. There is a 32% incidence of NAFLD in Pakistani type 2 diabetics [7]. The National Health Survey of Pakistan conducted way back in 2006 depicted an incidence of obesity in 25% of the Pakistani population, and since then, numbers have continued to rise.

Though the malady may be observed in children, NAFLD is commonly seen in the 40-60 years age bracket, with a relatively equal gender distribution. Common features include obesity, dyslipidemia, type 2 diabetes and hypertension [8]. Symptoms such as fatigue and vague pain or discomfort in the right upper quadrant may be present. However, features of CLD are typically only observed in fairly advanced stages, with liver enlargement seen in three-fourths of cases [9]. Acanthosis Nigricans may be observed in younger NAFLD patients.

In patients with both NAFLD and type 2 DM, the likelihood of developing cirrhosis, hepatocellular carcinoma, and death increases [10]. Such cases are also prone to the condition progressing towards advanced forms of fibrosis and cirrhosis [4].

Asian consensus guidelines defines obesity as a BMI greater than 25 kg/m², with males having a waist circumferences of more than 90 cm and females more than 80 cm [11]. While these groups are more vulnerable, it must be pointed out that even lean and thin individuals may develop this condition. The term Metabolic Associated Fatty Liver Disease (MAFLD) is employed when NAFLD is present in cases with metabolic syndrome – obesity, type 2 DM, hypercholesterolemia and hypertension [3].

While a liver biopsy is confirmatory for NAFLD, the procedure is invasive and painful. Quantification of Fatty Liver Index (FLI) and Hepatic Steatosis Index (SI) is helpful in risk assessment and liver fat estimation on ultrasound is pertinent for diagnosis [1]. FibroScan and vibration-controlled transient elastography help establish the NAFLD fibrosis score, while estimation of FIB-4 index, APRI, BARD further aids in detecting fibrosis and monitoring the course of the disease [12].

The malady is generally asymptomatic in its initial stages. Patients may complain of easy fatigability, weakness, and vague abdominal pains with possible disturbances in liver function test (LFTs). As the disease advances, manifestations such as jaundice, ascites, and splenomegaly may appear. Cirrhosis of the liver and hepatocellular carcinoma may develop in late stages of disease. Additionally, associated cardiovascular disease (CVD) is also commonly seen in these patients [3].

A Multitude of drugs are used in NAFLD, including Obeticholic acid (a Farnesoid X receptor agonist), Vitamin E, Galectin-3 antagonist, pioglitazone, GLP-1 ligands, receptor agonists, and apoptosis signal-regulation kinase-1 [1].

It is imperative for physicians to aggressively manage T2DM, obesity, and sedentary lifestyle in Pakistan, emphasizing proper diet, regular exercise and weight control. Early diagnosis, proper medical treatment, modification of risk factors, and referral to specialists are essential. A multi-disciplinary team for optimal management should include dietitian, endocrinologist, fitness trainer, psychologist, and gastroenterologist. The adoption of a low-carbohydrate Ketogenic diet, along with steps to improve HOMA IR hold promise.

The escalating incidence of fatty liver disease in the region and in Pakistan is alarming [13]. It is imperative that all stakeholders including physicians, health planners, policymakers, and national organizations, step up to this menacing challenge and address it proactively with the vigor required [14, 15].

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CONFLICT OF INTEREST

Declared none.

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