EDITORIAL

FATTY LIVER, NAFLD, MAFLD AND NASH A MENACE FAR BIGGER THAN ANTICIPATED: NEED FOR PRE-EMPTIVE DIAGNOSTICS

Sikandar Hayat Khan
Department of Pathology, Naval Hospital Islamabad-Pakistan

1. Had liver a face to mirror itself, perhaps we could have avoided a lot of dietary abuse. While it's not so a lot of yummy taste that the tongue relishes are passed down as permanent freckling to the "metabolic factory". In medicine "Non-Alcoholic Fatty Liver disease (NAFLD)", and its synonyms like Fatty Liver Disease" and "Metabolic Associated Fatty Liver Disease (MAFLD)" have emerged as one the commonest hepatic disorders. Excessive fat inside liver is a sign of multiple future diseases starting from liver damage itself, where Non-alcoholic Steatohepatitis (NASH) has been associated progress to cirrhosis and onward liver failure in 20% of patients in the developed world.[1] The undesirable hepatic and visceral fat deposition has also been strongly shown to be associated with metabolic syndrome and some literature even narrated NAFLD as "pre-diabetes".[2]

2. Next generational evidence-based medicine supplanted by nano diagnostics and molecular data has reshaped our understanding of hepatic fat accumulation and resulting complications compromising the human metabolic function. Alongside real-time insight into the fat related liver diseases through multiple biomarkers and integrated diagnostics, there emerges the possibility of tackling pathobiology with newer candidate therapeutics. The initial effects of hepatic fat accumulation may not be symptomatic, but possible signs of obesity and clinical evaluation do intake higher intake of refined carbohydrates and fat rich diets. However, we do interpret the benign to pathological transition as become apparent from hepatic steatosis to fibrosis with ill-fated suffering due to hepatocellular carcinoma (HCC). Provided basic understanding of the jigsaw puzzle between fat and liver's misery the underlying mechanics at play seem to be differing and multiple. A recent study by Mann et al have identified few single nucleotide variants (SNVs) which could fast track NAFLD to adverse outcome associated NASH along with certain protective variants.[3] Similarly, researchers through expression studies and various proteomic data have also been able to identify molecular signatures for development if NAFLD and NASH, allowing us to dissect the staged progression from simplistic steatosis to end-staged liver disease and HCC.[4]

3. While most Caucasian studies depict obesity to be the underlying cause of fatty liver to be associated with higher obesity indices like body mass index (BMI) waist to hip or height ratio. Asians and in specific South Eastern Asians have varied obesity deposition profiles, termed as "Asian obesity paradox" where individuals need not be apparently obese but still manage to accumulate excessive fat in liver along with complications including cirrhosis.[5] Similarly, this pattern is non-obese NAFLD apart from progression to cirrhotic liver disease, has also been associated with subclinical atherosclerosis and various metabolic diseases.[6] We have already highlighted unnecessary buildup of fat in hepatic tissue can possibly result in diabetes.[2] Therefore, there is convincing data to suggest that appearance of NAFLD with or without obesity remains a key trigger to various hepatic and non-hepatic diseases including diabetes, metabolic syndrome, polycystic ovarian syndrome and certain adenocarcinomas.[6,7]

3. The aforementioned discussion suggests the trickledown effect from exuberance of food with less optimal exercise rate stays should be the mainstay of primary prevention. The early life hepatic steatosis, if screened through ultrasonography and serum ALT could intercept the vicious leading to magnitudes of patient load from metabolic diseases, adding quality to life years, amplifying national productivity, help reduce tons of financing due to reduced medical interventions including liver transplantation and will ward human kind from enormous sufferings and miseries. The current recommendations on screening for fatty liver disease remain controversial. The recommendations by "North American Society for Paediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN)" is to include ALT levels for screening fatty liver disease, while the "European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN)" suggests screening by using ultrasonography and serum ALT levels both.[8] Alongside "Asian Pacific Working Party for NAFLD", the "Endocrine Society" and "Chinese Liver Disease Association" also recommend screening for fatty liver disease albeit in different modes. The current understanding evident by prevailing practice in our region suggests an

oblivious approach towards NAFLD screening in children adolescents and adults.[9]

The region hallmarked by rapidly urbanizing population with atypical visceral fat distribution and biostatistics depicting a concerning trend for increase in metabolic diseases with spectrum spanning from cirrhosis to diabetes, metabolic syndrome and list of adenocarcinomas needs attention of medical practitioners. While we may not be blessed with financial and medical resource to manage these cancers and life-long metabolic ailments and population being so naïve and illiterate of incoming a strong suggestion is warranted to help reduce the productive life years metabolic ailments, which can be rooted out at the outset by timely screening and lifestyle modifications. There can be slogan for this "No Room for Fat in Liver".

DECLARATIONS

I as the author of this editorial titled: "Fatty liver, NAFLD, MAFLD and NASH a menace far bigger than anticipated: Need for pre-emptive diagnostics" declare no conflict of interest

There were no funding sources available for the study.

Contribution- SHK: All aspects related to this manuscript were dealt.

REFERENCES

1. Sheka AC, Adeyi O, Thompson J, Hameed B, Crawford PA, Ikramuddin S. Nonalcoholic Steatohepatitis: A Review. JAMA 2020;323(12):1175–83.
2. Bungau S, Behl T, Tit DM, Banica F, Bratu OG, Diaconu CC, *et al*. Interactions between leptin and insulin resistance in patients with prediabetes, with and without NAFLD. Exp Ther Med 2020;20(6):197.
3. Mann JP, Pietzner M, Wittemans LB, Rolfe EL, Kerrison ND, Imamura F, *et al*. Insights into genetic variants associated with NASH-fibrosis from metabolite profiling. Hum Mol Genet 2020;29(20):3451–63.
4. Xiong X, Wang Q, Wang S, Zhang J, Liu T, Guo L, *et al*. Mapping the molecular signatures of diet-induced NASH and its regulation by the hepatokine Tsukushi. Mol Metab 2019;20:128–37.
5. Fan JG, Kim SU, Wong VW. New trends on obesity and NAFLD in Asia. J Hepatol 2017;67(4):862–73.
6. Thakur ML, Sharma S, Kumar A, Bhatt SP, Luthra K, Guleria R, *et al*. Nonalcoholic fatty liver disease is associated with subclinical atherosclerosis independent of obesity and metabolic syndrome in Asian Indians. Atherosclerosis 2012;223(2):507–11.
7. Tariq R, Axley P, Singal AK. Extra-Hepatic Manifestations of Nonalcoholic Fatty Liver Disease: A Review. J Clin Exp Hepatol 2020;10(1):81–7.
8. Ezaizi Y, Kabbany MN, Conjeevaram Selvakumar PK, Sarmini MT, Singh A, Lopez R, *et al*. Comparison between non-alcoholic fatty liver disease screening guidelines in children and adolescents. JHEP Rep 2019;1(4):259–64.
9. Middleton JP, Wiener RC, Barnes BH, Gurka MJ, DeBoer MD. Clinical features of pediatric nonalcoholic fatty liver disease: a need for increased awareness and a consensus for screening. Clin Pediatr (Phila) 2014;53(14):1318–25.

Citation: Khan SH. Fatty liver, NAFLD, MAFLD and NASH a menace far bigger than anticipated: Need for pre-emptive diagnostics. J Ayub Med Coll Abbottabad 2021;33(2):173–4.

Address for Correspondence:

Sikandar Hayat Khan, Head Department of Pathology, Naval Hospital Islamabad-Pakistan
Email: sik_cpsp@yahoo.com