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No More NAFLD: The Term Is Now MASLD

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Multinational liver societies, including those in the United States and Europe, have agreed to change the nomenclature and definitions of non-alcoholic fatty liver disease (NAFLD) [1]. This decision was made because the current name is thought to obscure the etiology of the disease and carry a stigma [1,2]. The proposed new terminology is metabolic dysfunction-associated steatotic liver disease (MASLD) to replace NAFLD, and metabolic dysfunction-associated steatohepatitis (MASH) to replace nonalcoholic steatohepatitis. According to the new definition, patients with hepatic steatosis who also have at least one of five cardiometabolic risk factors are classified as having MASLD, unless other causes of steatosis are identified. Additionally, a new category called metabolic dysfunction and alcoholic liver disease (MetALD) has been introduced for individuals with MASLD who consume more alcohol than threshold for nonalcoholic status but less than the threshold for alcoholic liver disease (ALD) (average daily 20–50 g for women, 30–60 g for men). Furthermore, steatotic liver disease (SLD) has been adopted as a broad term encompassing the various causes of steatosis [1].

The most significant changes in this revision are the naming and definition based on the disease's cause. Within the SLD framework, different disease subcategories such as MASLD, MetALD, ALD, and cryptogenic SLD have been proposed to describe conditions with specific cause, where insulin resistance and alcohol consumption are the primary contributor to hepatic steatosis. This dual etiology is a key distinction in the new definitions and nomenclature, setting them apart from the previous terms. The term NAFLD has traditionally been used to describe a histological spectrum from simple steatosis to steatohepatitis [3], but this nomenclature fails to indicate the disease's etiology [1]. Moreover, the NAFLD definition excludes individuals who consume more than 20 g/30 g of alcohol per day for women and men, respectively [3].

MASLD is a type of SLD primarily caused by insulin resistance. This etiology-focused terminology may reduce the heterogeneity encompassed by term NAFLD [1], and also offers more precise risk stratification. It is important to note that not all liver diseases that begin with simple steatosis progress to advanced liver disease [3]. However, the risk of progression is greater in individuals with insulin resistance, which is considered a critical factor in the development of fibrosis in patients with NAFLD [4-6]. The purpose of screening for NAFLD is to identify individuals at risk for serious health outcomes associated with the progression of liver disease, such as cirrhosis [7]. Those categorized as having MASLD are thought to be at a higher risk than those with NAFLD. The cause-based nomenclature may also influence treatment strategies. For patients with ALD, the recommended treatment is abstinence from alcohol [8]. Currently, there are no drugs approved specifically for NAFLD; however, for adults with type 2 diabetes, especially those who are overweight or obese, certain glucagon-like peptide-1 receptor agonists, sodium-glucose cotransporter-2 inhibitors, and pioglitazone have demonstrated efficacy in improving steatohepatitis and slowing the progression of fibrosis in NAFLD [9-11]. Considering the meta-

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bolic etiology, these treatments could be considered not only for MASLD but also for many patients with MetALD, despite MetALD being distinct from MASLD due to the additional pathogenic contribution of alcohol consumption [1].

Under the new definition, MetALD is a separate category where metabolic and alcohol-associated risk factors coexist [1]. While the term NAFLD has been widely used, patients with MetALD have been excluded from most epidemiological studies and clinical trials due to their alcohol consumption, which exceeds the minimal levels used to define the disease as nonalcoholic [12,13]. This group is also differentiated from ALD, which is characterized by higher levels of alcohol consumption (>50 to 60 g daily for women and men, respectively) [1]. Despite variations in drinking cultures across countries, a significant proportion of patients with SLD are likely to be classified as having MetALD [14]. However, there is a lack of current knowledge about this patient group. Consequently, research findings pertaining to these individuals are anticipated. It is important to determine the prevalence of MetALD as a distinct group. The prevalence of NAFLD may be expanded to include the prevalence of both MASLD and MetALD, where insulin resistance is a common underlying cause. It would also be of interest to determine whether correcting insulin resistance through weight loss or medication, without modifying alcohol intake, could be effective in treating MetALD. Furthermore, it is worth investigating whether alcohol consumption affects the response to therapeutic intervention in MetALD compared to MASLD patients.

The term NAFLD has been widely used for the past 40 years [1], and it is a familiar designation within the medical community. Numerous studies continue to be conducted under the definition of NAFLD, and any alterations to its name and definition could impact the interpretation of both existing and future research findings. One of the motivations for renaming the condition was to avoid potentially stigmatizing language. However, it is important to note that perceptions of stigma vary across different languages and cultures [1,15]. In particular, the term "fatty" is unlikely to be perceived as stigmatizing by Koreans. Consequently, adoption and establishment of a new name may require time within the global academic and medical communities. The newly proposed nomenclature, which includes terms such as MASLD, MASH, MetALD, ALD, and SLD, is designed to be intuitive and to facilitate a clearer understanding of the disease's etiology and risk factors [1]. This clarity could influence treatment strategies. The introduction of a new category, MetALD, not previously recognized under the existing definitions of NAFLD, presents an opportunity to create new knowledge. This shift in nomenclature and definition will certainly increase disease awareness.

CONFLICTS OF INTEREST

Ji Cheol Bae is an associate editor of the journal. But he was not involved in thepeer reviewer selection, evaluation, or decision process of thisarticle. No other potential conflicts of interest relevant to this article were reported.

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