

Understanding the Interplay Between Viral Hepatitis and MASLD

A personalized approach to diagnosis and treatment is needed when viral hepatitis and fatty liver disease coexist.

December 19, 2023 By [Sukanya Charuchandra](#)

Viral hepatitis can exacerbate the progression of [metabolic dysfunction-associated steatotic liver disease \(MASLD\)](#), and a thorough understanding of the interplay between hepatitis viruses and fatty liver disease is needed to better diagnose and treat these conditions, according to a review published in [Cureus](#).

MASLD, [the new name](#) for non-alcoholic fatty liver disease (NAFLD), and its more severe form, metabolic dysfunction-associated steatohepatitis (MASH, formerly known as non-alcoholic steatohepatitis, or NASH), are responsible for a growing proportion of advanced liver disease worldwide. As a result of inflammation, the buildup of fat in the liver can lead to fibrosis, [cirrhosis](#) and even [liver cancer](#). With no effective approved medical therapies, disease management is dependent on lifestyle changes such as weight loss and exercise.

[Hepatitis A virus \(HAV\)](#), [hepatitis B virus \(HBV\)](#), [hepatitis C virus \(HCV\)](#) and hepatitis E virus (HEV) can also leave their mark on liver health. While HAV and HEV typically cause acute liver inflammation that resolves on its own, HBV and HCV cause chronic infection that can lead to serious complications, including cirrhosis and liver cancer. For diagnosis and prognosis, researchers must learn how viral infections interact with MASLD.

Seema Yelne, of the Datta Meghe Institute of Higher Education and Research in India, and colleagues conducted a review of available evidence regarding the relationship between HAV, HBV, HEV and fatty liver disease. (The review did not include HCV or hepatitis D virus.)

Some research has shown that HAV, HBV and HEV can alter a variety of metabolic features, possibly influencing the development of MASLD. Moreover, inflammation driven by viral infections within the liver can also affect hepatic metabolism, potentially worsening the accumulation of liver fat and leading to more severe liver disease.

Viral infections can make diagnosing MASLD more confusing and establishing a treatment plan more difficult. “Conversely, advanced fibrosis due to viral infections might overshadow the accurate staging of [MASLD]-related fibrosis,” wrote the review authors. “This overlapping

complexity makes accurate disease stratification challenging, potentially leading to underestimation or misclassification of disease severity.”

The researchers suggested that a personalized approach to treatment that takes into account both viral hepatitis and MASLD is needed. “Such an approach allows clinicians to navigate potential drug interactions, synergies and contraindications effectively, crafting treatment plans that simultaneously address the complexities of both conditions,” the authors added.

Significant gaps remain in understanding the interplay of these conditions and possible combination therapies. Further research is also needed to understand immune responses to viral hepatitis and how they contribute to fatty liver disease.

“Longitudinal investigations should examine the trajectory of disease progression, the potential for fibrosis regression and the response to treatment interventions in individuals affected by viral infections and [MASLD],” the authors wrote. “These studies will shed light on the overall prognosis of this complex coexistence and provide valuable data that can guide clinical management decisions, helping to tailor personalized treatment strategies for this unique patient population.”

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