

Chronic liver diseases: Emerging trends in diagnosis and gastrointestinal care.

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Introduction

Chronic liver diseases (CLDs), including cirrhosis, non-alcoholic fatty liver disease (NAFLD), hepatitis B and C, and alcoholic liver disease, pose significant global health challenges due to their high prevalence and potential for severe complications such as liver failure and hepatocellular carcinoma [1]. Advances in diagnostics and gastrointestinal care have brought new opportunities to improve early detection, management, and patient outcomes [2].

Early diagnosis of CLDs is crucial but often challenging, as these conditions may remain asymptomatic until advanced stages. Non-invasive diagnostic tools have gained prominence as alternatives to traditional liver biopsy [3]. Elastography-based techniques, such as transient elastography (FibroScan) and magnetic resonance elastography (MRE), provide reliable assessments of liver stiffness, which correlates with fibrosis severity [4].

Additionally, serum biomarkers and scoring systems, such as the Fibrosis-4 (FIB-4) index and AST-to-Platelet Ratio Index (APRI), are widely used to estimate fibrosis stages, offering cost-effective and accessible solutions [5]. For NAFLD, a growing contributor to CLDs, advances in imaging modalities, including proton density fat fraction MRI, have improved the detection of hepatic steatosis and quantification of fat content. These developments are critical given the rising prevalence of obesity and metabolic syndrome, which drive NAFLD progression to non-alcoholic steatohepatitis (NASH) [6].

In the realm of hepatitis B and C, antiviral therapies have transformed the management landscape. Direct-acting antivirals (DAAs) have made hepatitis C curable in most cases, while nucleos(t)ide analogs effectively suppress hepatitis B replication, reducing the risk of cirrhosis and cancer. Emerging therapies targeting cccDNA and immunomodulation hold promise for functional cures in hepatitis B [7].

Therapeutic strategies for cirrhosis, a common endpoint of CLDs, have focused on managing complications and improving quality of life [8]. Advances in endoscopic techniques, such as endoscopic variceal ligation (EVL) and transjugular intrahepatic portosystemic shunts (TIPS), have enhanced the management of portal hypertension. Nutritional support, including tailored protein intake and supplementation, plays a key role in preventing sarcopenia and improving

prognosis [9].

The gut-liver axis is increasingly recognized as a therapeutic target. Modulating gut microbiota through probiotics, prebiotics, and antibiotics is being explored to reduce systemic inflammation and hepatic encephalopathy in CLD patients. Additionally, innovative treatments such as cell-based therapies and precision medicine approaches, including genetic and epigenetic profiling, are paving the way for personalized care [10].

Conclusion

Emerging trends in diagnostics and gastrointestinal care are reshaping the management of chronic liver diseases. These advancements underscore the importance of early detection, multidisciplinary approaches, and innovation in improving patient outcomes.

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