Editorial

Similarities and differences between non-alcoholic fatty liver disease (NAFLD) & alcohol-associated liver disease (ALD)

Alcohol-associated liver disease (ALD) and non-alcoholic fatty liver disease (NAFLD) are commonest causes of chronic liver disease (1,2). In spite of different risk factor, they share common spectrum of fatty liver/steatosis, steatohepatitis, fibrosis, cirrhosis, and hepatocellular carcinoma. However, these two diseases are different on many aspects. With the progress made over the last decade, *Translational Gastroenterology and Hepatology* feels the need for reviewing the latest updates and identify unmet needs with future prospects on ALD and NAFLD. It is my privilege to guest edit this focused issue, with contributions on various aspects by experts in the respective field. Issues relevant to liver transplantation are not included, as there will be a separate issue on this.

Epidemiology

The epidemiology of ALD and NAFLD described in the first chapter also discusses lean NAFLD, a unique entity in individuals with normal body mass index. As only 10–20% of ALD or NAFLD patients develop cirrhosis, it is worth discussing disease modifiers including epigenetic and genetic factors.

Pathogenesis

Steatosis, the initiating pathology results from excessive inflow of fatty acids due to insulin resistance in NAFLD, and is due to decreased beta oxidation fatty acids in ALD. Herein, we also discuss lipotoxicity and other pathogenic pathways in the gut-liver axis, inflammation, oxidative stress, and fibrosis. In this regard, two focused articles discuss changes in gut microbiome and of mitochondrial dysfunction.

Diagnosis

Documentation of respective risk factor and exclusion of other causes of liver disease is required for diagnosis of ALD or NAFLD. With liver biopsy being invasive, emerging non-invasive serum and radiological markers are discussed for determining the fibrosis stage, the most important determinant in predicting clinical outcomes.

Clinical features

ALD patients more often present at advanced stage compared to NAFLD (3). Clinical similarities and differences between ALD and NAFLD are discussed separately for general features, hepatocellular carcinoma, systemic disease with extrahepatic manifestations, and acute on chronic liver failure (ACLF) presentation.

Treatment

With lack of effective therapies, investigators and industries are collaborating with many newer targets in phase-3 clinical trials. An article updates these trials highlighting study designs and barriers to patient recruitment. To improve patient enrollment, a dedicated chapter discusses ongoing activities on collaboration with industries to develop acceptable and clinically meaningful end points, with criteria for non-invasive diagnosis and long-term follow-up. Finally, there is an original retrospective analysis comparing NAFLD and ALD to highlight cholecystectomy as a risk factor and association with NAFLD.

Finally, as the guest editor, I take this opportunity to thank all contributors and experts from different parts of the world including the USA, Spain, China, and India. I sincerely hope that this issue will be useful for the readers of the TGH, and will

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help networking between the investigators to develop new research ideas. Hopefully, this effort will be a drop in the ocean of ongoing activities aiming to accomplish the goal of developing FDA approved safe and effective therapies for ALD and NAFLD.

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