

Alcohol and liver, 2010

Natalia A Osna

Natalia A Osna, Liver Study Unit, Research Service (151), VA Medical Center, 4101 Woolworth Avenue, Omaha, NE 68105, United States

Author contributions: Osna NA, a series editor of Topic Highlight “Alcohol and liver, 2010” wrote this Introduction.

Correspondence to: Natalia A Osna, MD, PhD, Liver Study Unit, Research Service (151), VA Medical Center, 4101 Woolworth Avenue, Omaha, NE 68105, United States. nosna@unmc.edu

Telephone: +1-402-9953735 **Fax:** +1-402-4490604

Received: January 20, 2010 **Revised:** March 8, 2010

Accepted: March 15, 2010

Published online: March 21, 2010

Abstract

Liver is known as an organ that is primarily affected by alcohol. Alcoholic liver disease (ALD) is the cause of an increased morbidity and mortality worldwide. Progression of ALD is driven by “second hits”. These second hits include the complex of nutritional, pharmacological, genetic and viral factors, which aggravate liver pathology. However, in addition to liver failure, ethanol causes damage to other organs and systems. These extrahepatic manifestations are regulated *via* the similar hepatitis mechanisms. In the Topic Highlight series, we provide an update of current knowledge in the field of ALD.

© 2010 Baishideng. All rights reserved.

Key words: Liver; Alcohol

Osna NA. Alcohol and liver, 2010. *World J Gastroenterol* 2010; 16(11): 1303 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v16/i11/1303.htm> DOI: <http://dx.doi.org/10.3748/wjg.v16.i11.1303>

Our Topic Highlight: “Alcohol and liver” is annually published in *World Journal of Gastroenterology* and reviews the most important discoveries in the field of alcoholic liver disease (ALD). In the current third edition of “Alcohol

and liver”, we focus on the ethanol-induced cross-talk between the liver and other alcohol-affected organs, such as gut, brain and pancreas^[1-3]. Also, signal transduction aspects of ALD include the role of an adiponectin/interleukin-10/heme oxygenase-1 pathway^[4], the impact of alcohol on hepatitis C virus replication and interferon signaling^[5] and the role of Toll-like receptor signaling^[6]. In addition, certain reviews published in this issue shed light on molecular mechanisms of liver cell damage, as well as other aspects of ALD pathogenesis, such as the effects of ethanol on proteasome-interacting proteins^[7], alterations of hepatocyte cytoskeleton^[8], hepatoprotective effect of S-adenosyl-L-methionine against alcohol in CYP2E1-dependent liver injury^[9] and gender/hormonal differences in ALD development^[10]. We believe that this issue will be of strong interest not only for gastroenterologists, but also for those involved in alcohol, liver and brain research.

REFERENCES

- 1 **Wang HJ**, Zakhari S, Jung MK. Alcohol, inflammation, and gut-liver-brain interactions in tissue damage and disease development. *World J Gastroenterol* 2010; **16**: 1304-1313
- 2 **Clemens DL**, Mahan KJ. Alcoholic pancreatitis: Lessons from the liver. *World J Gastroenterol* 2010; **16**: 1314-1320
- 3 **Szabo G**, Bala S. Alcoholic liver disease and the gut-liver axis. *World J Gastroenterol* 2010; **16**: 1321-1329
- 4 **Mandal P**, Pritchard MT, Nagy LE. Anti-inflammatory pathways and alcoholic liver disease: Role of an adiponectin/interleukin-10/heme oxygenase-1 pathway. *World J Gastroenterol* 2010; **16**: 1330-1336
- 5 **McCartney EM**, Beard MR. Impact of alcohol on hepatitis C virus replication and interferon signaling. *World J Gastroenterol* 2010; **16**: 1337-1343
- 6 **French SW**, Oliva J, French BA, Li J, Bardag-Gorce F. Alcohol, nutrition and liver cancer: Role of Toll-like receptor signaling. *World J Gastroenterol* 2010; **16**: 1344-1348
- 7 **Bardag-Gorce F**. Effects of ethanol on the proteasome interacting proteins. *World J Gastroenterol* 2010; **16**: 1349-1357
- 8 **Shepard BD**, Tuma PL. Alcohol-induced alterations of the hepatocyte cytoskeleton. *World J Gastroenterol* 2010; **16**: 1358-1365
- 9 **Cederbaum AI**. Hepatoprotective effects of S-adenosyl-L-methionine against alcohol- and cytochrome P450 2E1-induced liver injury. *World J Gastroenterol* 2010; **16**: 1366-1376
- 10 **Eagon PK**. Alcoholic liver injury: Influence of gender and hormones. *World J Gastroenterol* 2010; **16**: 1377-1384

S- Editor Tian L L- Editor Wang XL E- Editor Zheng XM