World Journal of Gastroenterology

Online Submissions: http://www.wjgnet.com/esps/
wjg@wjgnet.com
doi:10.3748/wjg.v19.i13.2129

World J Gastroenterol 2013 April 7; 19(13): 2129-2130
ISSN 1007-9327 (print) ISSN 2219-2840 (online)

Alcohol consumption and fatty liver disease

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Author contributions: Feng RN, Sun GD, Zhao Y and Guo FC contributed equally to this work; Feng RN and Sun CH designed the study and wrote the manuscript; Feng RN provided financial support for this work; all the authors were involved in revising the manuscript.
Supported by The National Natural Science Foundation of China, No. 81202184; and Heilongjiang Provincial Post-Doctoral Fund, No. LBNZ-12193
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Received: August 8, 2012 Revised: March 2, 2013
Accepted: March 8, 2013
Published online: April 7, 2013

Abstract

Hamaguchi *et al* recently reported some interesting observations on alcohol consumption and risk of fatty liver disease from a large population. However, we feel that it might be necessary to discuss some concerns in this study. As the alcohol consumption categorization was defined by the same criteria in both men and women, which might affect their results. As another factor is soft drinks consumption. It has been proved that soft drinks, especially fructose, contributes to the development of obesity, diabetes, metabolic syndrome, and nonalcoholic fatty liver disease. However, this confounding factor was not adjusted or discussed in this article. The third is the genetic background, for some genetic factors are related with the development of fatty liver disease, which was also not considered yet.

Key words: Alcohol; Fatty liver disease; Obesity; Diabetes; Metabolic syndrome

Core tip: Modest alcohol consumption was significantly inversely associated with fatty liver disease in recent studies. However, some studies did not consider some important potential confounding factors when they conclude their findings. Herein, we raised and discussed these important factors in this letter.

Feng RN, Sun GD, Zhao Y, Guo FC, Sun CH. Alcohol consumption and fatty liver disease. *World J Gastroenterol* 2013; 19(13): 2129-2130 Available from: URL: http://www.wjgnet.com/1007-9327/full/v19/i13/2129.htm DOI: http://dx.doi.org/10.3748/wjg.v19.i13.2129

TO THE EDITOR

We read with great interest the article by Hamaguchi *et al*[1] published in January 2012 at *World J Gastroenterol*. This cross-sectional study reported some interesting observations on alcohol consumption and risk of fatty liver disease from a large population. However, we feel that it might be necessary to discuss some concerns in this study.

The authors clearly indicated that alcohol consumption was significantly inversely associated with fatty liver disease, especially in men. However, they did not find this association in their previous cohort study[2]. The reason for this contradiction might be that some important confounding factors were not considered. As the alcohol consumption categorization was defined by the same criteria in both men and women, only 84 female subjects (1.1%) were defined as excess alcohol consumers and 207 (2.7%) were defined as moderate alcohol consumers, the numbers being much lower than those in men (13.5% and 14.7%, respectively). Although the authors analyzed the data in both men and women, the initial categorization was not separated, which might affect their results.

Another factor is soft drinks consumption. It has been proved that soft drinks, especially fructose, contributes to the development of obesity, diabetes, metabolic syndrome, and nonalcoholic fatty liver disease[3]. However, this confounding factor was not adjusted or discussed in this article. The last point is about the genetic background. Although the mechanisms of this inverse association between alcohol consumption and fatty liver disease are still unclear, some genetic factors are related with the development of fatty liver disease[4-6], such as peroxisome proliferator-activated receptor gamma and hemochromatosis gene polymorphisms[7,8]. Therefore, as some genetic factors might interact with alcohol consumption in fatty liver disease, it could be an interesting topic for further investigations.

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