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VIEWPOINT

Viewpoint: "Alcohol Consumption in Late Adolescence is Associated With an Increased Risk of Severe Liver Disease Later in Life"

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ABSTRACT

Drinking alcohol during adolescence predispose to severe liver disease in the adult phase. This is the main message of this prospective study. Each daily gram of alcohol men consumed in their youth was linked with a two percent increase in the risk of severe liver disease. No threshold level emerged for liver damage and this is a warning for all the sociologists and politics. New legiferation and educational campaigns addressed to young people, with particular attention to the access to alcohol, prices and advertising are necessary.

Key words. ALD (alcoholic Liver Disease). Adolescence. Epidemiology. Alcohol Intake.

The burden of liver disease for the next decades are mainly metabolic and alcohol-related.[1,2] Alcohol is still the leading cause of cirrhosis and liver-related deaths.[2] No approved treatments for alcoholic liver disease (ALD) have been approved. The only way either to treat or to prevent ALD is to stop drinking. Preventive measures would also help to decrease the impact of excessive alcohol consumption on society. The natural history of ALD has not been fully elucidated. Population data are crucial to help create evidence-based health policies, and to reinforce efforts to reduce alcohol related injury. In one of the last issue of the *Journal of Hepatology,* Hagström, *et al.* analyzed the relationship between alcohol consumption in men at the time of conscription (aged 18-20) and the probability of severe liver disease 40 years later.[3] In this prospective study the authors examined a cohort of 43,296 men in their late adolescence entering military service in the years 1969 and 1970, when they were 18 to 20 years old and the outcomes, i.e. incident diagnoses of severe liver disease, registered until the end of 2009. From the original registry population of 49,321 Swedish men, 6,025 were excluded due to missing data. The variables considered were: daily alcohol consumption, BMI, smoking, use of narcotics, cognitive ability, cardiovascular fitness and severe liver disease during follow-up. The primary endpoint was severe liver disease, defined as liver cirrhosis, de-compensated liver disease (hepatocellular carcinoma, ascites, esophageal varices –bleeding or not bleeding–, hepatorenal syndrome or hepatic encephalopathy), liver failure or death from any of the above. After an average follow-up of about 38 years, 383 men were diagnosed with liver disease, including 208 who died. Drinking patterns were associated with a higher probability of alcohol-related liver damage. However, interestingly, there was no evidence for a "safe" threshold in crude univariate analysis as the risk was significant for daily alcohol consumption as low as 6 g/day (less than one unit). In a further analysis, after adjustment for body mass index, tobacco consumption, the use of narcotics, cardiovascular fitness and cognitive ability, the association between alcohol consumption and risk of severe liver disease became significant for daily intake > 31 g/day.

According to the researchers, each daily gram of alcohol men consumed in their youth was linked with a two

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percent increase in the risk of severe liver disease. This risk was more prominent among heavy drinkers. Young men who drank 31 to 40 g of alcohol daily had twice the risk of liver disease as compared to those who didn't drink; while on the other hand, those who drank 51 to 60 g daily had more than quadruple the risk of liver disease. There are many limitations of this study. The first one is the way to collect alcohol consumption: the reliance on men to accurately recall and report on their drinking habits is not always good and here there is no double-check. Moreover, researchers also lacked data on binge drinking that might impact the effect of alcohol consumption on the liver.

Alcohol consumption is anyway linked with various health hazards and should not be binged on. The current recommended cut-off levels in some countries suggest that safe alcohol consumption for men to avoid alcoholic liver disease ranges between 12 to 30 g per day, roughly equivalent to one-three drinks.

However, the exact amount needed to cause liver damage is not yet clear, but can be influenced by other factors like what people eat, what type of alcohol they consume and how often do they binge drink. The study did not support a threshold cut-off that could be regarded as safe in the non-adjusted analysis. The definition of safe cut-offs is difficult to set. For instance, we reported in the Dionysos study[4] that a cut-off of around 30 g of alcohol per day was found to differentiate between high and low risk of cirrhosis. Rehm[5] and Corrao,[6] have shown that levels of consumption as low as 12-25 g/day can be regarded as deleterious in men at a population level. Below these thresholds, the deleterious impact of alcohol on the liver is controversial and this has led EASL to be very cautious.[7] Furthermore, these results are only valid for men and need to be validated in women.

Nevertheless, this study deserves attention: according to the World Health Organization's 2014 global status report on alcohol and health,[8] alcohol-related cirrhosis is responsible for 493,300 deaths each year. As the authors claimed, safe levels of alcohol consumption must be revised for the general population and public health policies must be adapted accordingly. Education and information to the single drinkers are not sufficient to reduce alcohol consumption in the general population and targeted interventions aimed at identifying and warning excessive drinkers especially in the adolescents, are useful but only on an individual level.

General recommendations by physicians must be accompanied by alcohol-control policies, wide information and educational campaigns, addressed mainly to the adolescents. New legiferation are probably necessary worldwide, with particular attention especially to the access to alcohol, prices and advertising. This is going to be a "must" for the sociologists and the politicians in the near future, in order to avoid that alcohol abuse will become the major population killer.

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