COMMITTEE ON CARCINOGENICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT

Consideration of recent meta-analysis investigating the effect of alcohol on extrahepatic bile system cancer (EBSC) risk

1. In light of Members' suggestion to consider the recently published meta-analysis on alcohol consumption and non-Hodgkin lymphoma (NHL) and Hodgkins lymphoma (HL), the Secretariat also felt Members should consider a recent meta-analysis by Kan et al. (2011) (Annex A) on the role of alcohol consumption in extrahepatic bile system cancer (EBSC) risk.

2. EBSC is a rare cancer of the hepatic and bile ducts that are outside the liver. In the UK, around 400 people are diagnosed with EBSC and it is more common in men than women (Cancer Research UK, accessed 2014). The main risk factors for EBSC cancer are age, primary sclerosing cholangitis, ulcerative colitis, choledochal cysts, liver flukes and bile duct stones. There are a number of other factors that may be risk factors for bile duct cancer including liver cirrhosis, Hepatitis C infection, HIV infection, diabetes, overweight or obesity, benign growths in the bile duct called bile duct adenomas, alcohol and tobacco.

Meta-Analysis on Alcohol Drinking and the risk of EBSC risk

3. One recently published meta-analysis is considered here. Kan et al. (2011) carried out a meta-analysis on a total of 9 case–control studies and 1 cohort study to investigate the role of alcoholic beverage intake in EBSC risk. The authors searched systematically for all articles published from 1966–2010 to identify studies for inclusion in the analysis. A total of 113,767 EBSC cases (11,899 cases from the case–control studies and 101,868 from the cohort study) were included in this meta-analysis. They examined the relationship between alcohol consumption and the risk of EBSC by examining the adjusted odds ratios (ORs).Both fixed-effects and random-effects models were considered for the meta-analysis. The reference category was defined as the lowest alcohol consumption in each study (non-drinkers or low drinkers). Exposure alcohol categories varied across the 10 studies. Alcohol exposure was referred to as "current/regular/yes/ever drinker" in 7/10 studies, "moderate/heavy drinkers" in one study and "drinkers" (unspecified) in the other two studies. For the purpose of the meta-analysis "heavy drinkers" was defined as those consuming more than 14 drinks/week or more than 80 g/day. They reported a statistically significant negative association for alcohol drinkers versus non-/low drinkers from case–control studies (OR = 0.80, 95% CI = 0.68–0.93) and from all the studies combined (OR = 0.82, 95% CI = 0.72–0.94). However, a non-statistically significant positive association was observed for heavy alcohol drinkers versus non-/low drinkers was 1.58 (95% CI = 0.97–2.57). It was noted that data on heavy drinking only provided in three of the nine case–control studies included in the meta-analysis.

Summary

4. Overall, the meta-analysis indicated that alcohol consumption lowers the risk of EBSC compared with non-drinkers and low drinkers of alcohol, but not heavy alcohol consumption. Despite a large sample size, the authors do suggest a number of limitations of their study (the geographical location of studies, the study types and the need for better adjustments for other confounders) and suggest further work is needed to confirm their findings.

Questions for the committee

1) What are the views of the Committee on this recently published meta-analysis on alcohol consumption and EHBS cancer risk?

References

Cancer Research UK (2014). http://www.cancerresearchuk.org/cancer-help/type/bile-duct-cancer/about/

Kan HP, Huang YQ, Tan YF, Zhou J. (2011). Meta-analysis of alcohol consumption and risk of extrahepatic bile system cancer. Hepatol Res., 41(8):746-53.

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He-Ping Kan, Yu-Qi Huang, Yong-Fa Tan and Jie Zhou. Meta-analysis of alcohol consumption and risk of extrahepatic bile system cancer. *Hepatology Research* 41: 746-753 (2011).

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