Yoo et alexamined the association between changes in alcohol consumption over 2 years and future risk of cancer in a large cohort of 4.5 million beneficiaries of the Korean National Health Insurance Service. Increase in alcohol use was associated with higher cancer risk, whereas reduction in use was associated with lower risk, particularly among participants who started drinking at a heavy level.

Alcohol consumption is an important cancer risk factor, with associations observed for at least 7 cancer types (esophageal, oral cavity, laryngeal, pharyngeal, liver, colorectal, and female breast). Yet, numerous research questions remain. A well examined dose-response association has been reported, with highest risks observed among people who drink 3 alcoholic beverages per day and higher. However, little data are available on the impact of increasing, decreasing, or cessation of alcohol use. Reducing and further quitting alcohol consumption may be hypothesized as factors in lower cancer risk, although few studies have examined these associations. Not only would such information provide additional support for the role of alcohol in cancer development, but it would also inform public health guidance. It is within this context that Yoo et al provide evidence suggesting that cancer risk can be meaningfully altered by changing the amount of alcoholic beverages consumed.

The study by Yoo et al had several key strengths, including the large size of the cohort, large number of cases, and 2 assessments for the primary analysis. However, there were also limitations. The 2 assessments of alcohol intake occurred just 2 years apart, and the maximum follow-up was 7 years. Furthermore, the authors lacked information about alcohol drinking earlier in life; thus, they could not examine long-term changes in alcohol use. Surprisingly, higher cancer risks were found among participants with moderate and heavy levels of drinking who had quit drinking at the second assessment. Because they lacked information on the reasons individuals quit drinking, Yoo et al hypothesized, reasonably, that those participants stopped drinking because they felt ill or had developed symptoms of an incipient cancer. In a sensitivity analysis of participants who recorded alcohol intake 3 times over 6 years, the associations between quitting alcohol and subsequent cancer risk became null, which was reassuring. The study lacked information on other healthy behaviors that may have emerged along with the reductions in alcohol intake; thus, the authors could not attribute the changes in risk to alcohol intake alone. Future studies that capture lifetime alcohol use patterns, long-term changes in use, and motivations for behavior change are needed.

Another limitation of the study by Yoo et al was that alcohol-induced flushing and the aldehyde dehydrogenase (ALDH2 [OMIM 100650]) sequence variant, which is common in East Asian populations, were not discussed. The ALDH2*2 (rs671) allele is associated with both alcohol intake and cancer risk. Individuals who are heterozygous for rs671 and drink alcohol have higher cancer risks than those without the variant, whereas individuals who are homozygous for rs671 rarely drink alcohol and thus have generally lower risks. The interaction of rs671 and changes in alcohol use with cancer risk remains to be examined in future work. Given the high risk of cancer among individuals with rs671 and who consume alcohol, studies assessing changing alcohol use in other racial and ethnic groups are needed.

In spite of these limitations, Yoo et al provided important, new findings about the potential role of changes in alcohol consumption in cancer risk. Future studies should follow these authors’ lead and examine the association between alcohol intake and cancer risk in other populations and using longer intervals between assessments. Such studies are needed to move the field forward and inform public health guidance on cancer prevention.
Reducing Alcohol Use for Cancer Prevention

ARTICLE INFORMATION
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REFERENCES


