

Alcohol and cancer

The Nov 7 publication of *Alcohol and Cancer: a Statement of the American Society of Clinical Oncology* (ASCO) emphasises the prominence of alcohol as a proven cause of many cancers. This view is not novel and comes exactly 30 years after a working group of the International Agency for Research on Cancer determined that alcoholic beverages were carcinogenic to humans. It has been echoed by other cancer societies since then but seemingly ignored by the wider medical community and by society. The influential endorsement by ASCO provides a powerful impetus to act on decades of evidence that alcohol harms health.

Alcohol is causally linked to upper aerodigestive tract cancers (oral cavity, pharynx, larynx, oesophagus) and those of the colon, liver, and female breast. Associations exist for many other types of cancer, but the precise role of alcohol requires further research to be fully disentangled from ecological and lifestyle factors. Historical assertions of benefit from alcohol are likely misinterpreted or exaggerated, because no lower threshold for cancer risk has yet been identified. Carcinogenesis is most common in tissues that are in direct contact with alcohol and increases with exposure. For example, a three times increase in the recommended alcohol limit raises the risk of oesophageal cancer eight times, leading to estimates that three-quarters of oesophageal cancers are due to high alcohol consumption. Because cancer of the oesophagus has a 5-year survival rate of less than 10%, prevention is paramount.

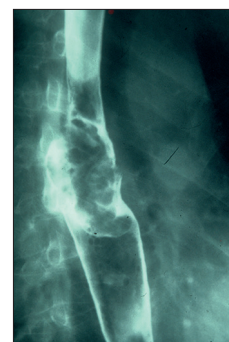
Although the mechanism of carcinogenesis might vary by the type of tissue involved, it is consistent for different forms of alcohol and likely involves ethanol's genotoxic metabolite, acetaldehyde. Additional evidence comes from east Asian populations, in which variant genotypes that impair aldehyde dehydrogenase are common (thereby raising aldehyde concentrations) and the incidence of aerodigestive tract tumours is increased. Because alcohol is a solvent, other toxic compounds, particularly those added to inferior products to enhance palatability, might also play a part.

The scale of the danger posed by alcohol is immense. Nearly 2 billion people consume alcoholic beverages regularly. All families and societies that consume alcohol are affected, with some populations, such as native Americans, at particularly high risk of harmful outcomes.

Europe is the region of greatest consumption and has the heaviest burden of alcohol-related cancers. One estimate of annual consumption in the UK for 2016 was 12 L of pure alcohol for individuals aged 15 years or older. Populations in eastern Europe drank even more. Beyond cancer, alcohol has widespread and insidious effects throughout the body and mind, leading to profound adverse social consequences. The Global Burden of Disease Study 2016 ranked alcohol as the seventh leading cause for disability-adjusted life-years (4.2%) and death (5.2%). In the UK, where classification of alcohol-specific deaths has been narrowed, there were 7327 registered deaths in 2016, an age-standardised rate of 11.7 per 100 000.

The ASCO statement takes the health consequences of alcohol beyond the dawn of understanding to the full light of day: alcohol is an undeniable menace to health. Yet it is also culturally bound to the behaviours of almost 2 billion people, for whom, in the coming weeks, large quantities will feature at Thanksgiving gatherings, seasonal office parties, Christmas celebrations, and new year festivities. As the Comment in this issue by Frank Murray about alcohol control in Ireland shows, stricter regulation of alcohol elicits strong political and commercial opposition. For those reasons, and because of the influence of alcohol on patients' wellbeing, moves towards safer drinking need to be led by health professionals. Routine surveillance, health education, and cancer prevention provide contexts for doing so within any consultation.

The challenge of alcohol and cancer will increase. Longer life expectancy means greater cumulative exposure, and as more populations become affluent, alcohol consumption grows. Meanwhile, the cost of alcohol in real terms has decreased, which expands availability. But alcohol is a modifiable hazard, with a risk that diminishes after stopping. There is no excuse to ignore regulatory interventions for access, advertisements, and unit cost that are shown to reduce alcohol consumption. Like tobacco, the longer the delay in effective control, the more severe future interventions for alcohol will need to be. It is not unimaginable that bottles of Château Mouton Rothschild, which once bore the artwork of Salvador Dali and Pablo Picasso, might one day be required to have plain packaging and images of oesophageal cancer or a cirrhotic liver. ■ *The Lancet*



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For the ASCO statement see <http://ascopubs.org/doi/full/10.1200/JCO.2017.76.1155>