

# Role of alcohol intake and smoking on upper aerodigestive cancers

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This paper provides an extensive analysis of the proportion of the risk of upper aero-digestive tract (UADT) cancers in the population (the population attributable risk) that may be due to alcohol consumption and/or smoking. The analyse provides strong evidence that smoking is the most important factor in the risk of these cancers, and the risk is enhanced among those who smoke and also consume 2 or more drinks per day. Alcohol alone (i.e., among non-smokers) has little effect on the risk (less than 1%).

The authors state that their observations "are consistent with the hypothesis that alcohol acts as a carcinogen primarily because of its promoting effect on [tobacco smoke](#)." In terms of the population-attributable risk, the authors conclude that "Our findings confirm that tobacco and alcohol together explain 73% of total UADT cancer burden in Europe." Overall, [tobacco use](#) alone explained 28.7%, the combination of smoking and drinking 43.9%, and alcohol use alone only 0.4% of the population attributable risk. However, among women, the risk of these cancers was higher among smokers than among those who both smoked and consumed alcohol.

Comments on the present paper: This was a case-control analysis, which is usual for uncommon [types of cancer](#). Controls were matched on age, gender, and area of residence, but some of the analyses also adjusted for educational level. Forum members thought it unusual that the investigators considered as "ever drinkers" only subjects reporting 2 or more drinks per day; in most countries, the majority of light-to-moderate

drinkers would be classified as never drinkers by this definition. The data presented do not permit an evaluation of effects for lower levels of [alcohol intake](#). However, given that even at 2 or more drinks per day the [effects of alcohol](#) alone on population attributable risk were very small, it could be assumed that lighter drinking may have even less of a direct effect on the risk of these cancers.

No information was available on diet (e.g., fruit and vegetable intake) or other lifestyle habits that may affect cancer risk. Thus, it is not possible to judge whether subjects who were both smokers and drinkers may have had other unhealthy lifestyle habits as well. Smoking and drinking might be just two visible markers of subjects with many unhealthy lifestyle habits.

Forum reviewers thought that this was a very good paper, but hoped that in the future we would have more studies that evaluated the effects on risk of varying levels of [alcohol consumption](#), differential effects of various beverages, and even differential effects according to subjects' genetically determined differences in alcohol metabolizing enzymes.

**More information:** Anantharaman D, Marron M, Lagiou P, Samoli E, Ahrens W, Pohlabein H, et al. Population attributable risk of tobacco and alcohol for upper aerodigestive tract cancer. *Oral Oncology* 2011;47:725-731.

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