

Alcohol-induced flushing is a risk factor for esophageal cancer from alcohol consumption

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There is growing evidence, say researchers in this week's *PLoS Medicine*, that people who experience facial flushing after drinking alcohol are at much higher risk of esophageal cancer from alcohol consumption than those who do not.

About a third of East Asians (Japanese, Chinese, and Koreans) show a characteristic physiological response to drinking [alcohol](#) that includes [facial flushing](#), nausea, and an increased heart rate. This so-called "[alcohol](#) flushing response" is predominantly due to an inherited deficiency in an enzyme called aldehyde dehydrogenase 2 (ALDH2). Although clinicians and the East Asian public generally know about the alcohol flushing response, few are aware of the accumulating evidence that ALDH2-deficient individuals are at much higher risk of [esophageal cancer](#) (specifically squamous cell carcinoma) from [alcohol consumption](#) than individuals with fully active ALDH2.

Dr Philip Brooks and colleagues from the National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Maryland, USA, along with Dr. Akira Yokoyama from the Kurihama Alcohol Center in Japan, say that this lack of awareness is "unfortunate as esophageal cancer is one of the deadliest cancers worldwide, with five-year survival rates of 15.6% in the United States, 12.3% in Europe, and 31.6% in Japan."

"Our goal in writing this article," say the researchers, "is to inform doctors firstly that their ALDH2- deficient patients have an increased

risk for esophageal cancer if they drink moderate amounts of alcohol, and secondly that the alcohol flushing response is a biomarker for ALDH2 deficiency."

Clinicians, they say, can determine ALDH2 deficiency simply by asking about previous episodes of alcohol-induced flushing.

"As a result," say Dr Brooks and colleagues, "ALDH2-deficient patients can then be counseled to reduce alcohol consumption, and high-risk patients can be assessed for endoscopic cancer screening."

In view of the approximately 540 million ALDH2-deficient individuals in the world, many of whom now live in Western societies, even a small percent reduction in esophageal cancers due to a reduction in alcohol drinking would translate into a substantial number of lives saved.

More information: Brooks PJ, Enoch M-A, Goldman D, Li T-K, Yokoyama A (2009) The alcohol flushing response: An unrecognized risk factor for esophageal cancer from alcohol consumption. PLoS Med 6(3): e1000050. doi:10.1371/journal.pmed.1000050, [medicine.plosjournals.org/perl ... journal.pmed.1000050](http://medicine.plosjournals.org/permalink/journal.pmed.1000050)

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