



Is Alcohol an Anti-Aging Drug?

The consumption of alcohol has been shown, over and over again, to be associated with substantially lower death rates, especially from heart disease. Since aging is the biggest risk factor for the main chronic diseases of civilization, and alcohol lowers death rates, is alcohol an anti-aging drug?

Alcohol and lower death rates

There are [grounds for skepticism in the association between alcohol and lower death rates](#). (I've been one of the skeptics.) For instance, people who have quit drinking, and are therefore non-drinkers, may have quit either because they were alcoholics or had other health problems, therefore their higher death rates would not entirely be due to non-drinking. Some studies have tried to get around this limitation by comparing drinkers only to lifelong teetotalers.

There are also confounders, such as IQ and social status. Contrary to what might be assumed, more intelligent people and those with higher socioeconomic status drink *more*, and IQ and SES are also associated with better health and longer life. Researchers can statistically adjust for these factors, but there may be others that they don't see. There are ways of getting around this limitation too, as we'll see.

In Spanish men, [alcohol consumption was associated with much lower death rates from heart disease](#). What's interesting here is that it's not just moderate drinkers who have lower death rates from heart disease, hazard ratio 0.49 indicating less than half the risk. But high and very high consumers also had lower risk, at 0.46 and 0.50 respectively. (As there are scores or hundreds of similar studies on alcohol and death rates, I will cite merely this one.)

To get around the IQ and socioeconomic status effects, it helps to look at some particular group of people, and that's what [a study of British doctors did](#). As confirmation of the ex-drinker hypothesis, ex-drinkers had higher mortality than never-drinkers or current drinkers. But even when the drinking doctors were compared to the never-drinking doctors, they had 28% lower death rates from heart disease, 31% lower from respiratory disease, and 12% lower death rates overall.

It's possible that IQ and social status effects are not completely eliminated in this study. Even among doctors, some are smarter and make more money than others. But it would seem to considerably narrow the IQ range under consideration, from say 110 to 150, instead of 75 to 150 in the entire population. The authors of this study conclude:

Although some of the apparently protective effect of alcohol against disease is artefactual, some of it is real.

In other words, studies like these show a mixture of factors, such as IQ, status, previous health, and so on, but one of the factors is that alcohol decreases death rates.

Why alcohol lowers death rates

Lots of theories have been floated as to why alcohol might lower death rates, especially from heart disease. But the following one really grabbed my attention. First, we need to look at one of the most prominent ideas in aging research: [growth vs longevity](#).

Put bluntly, anything that promotes growth – after the age of maturity or reproductive onset – also promotes aging.

More mechanistically, anything that causes [constitutive activation of mTOR \(the mammalian target of rapamycin\) promotes aging](#).

Food, obesity, anabolic steroids, growth hormone: all promote mTOR and thus promote aging.

Food restriction, resveratrol, rapamycin, metformin: all decrease mTOR activation, and thus promote longer life.

[Add alcohol to the list of mTOR deactivators](#).

Alcohol mechanistically deactivates mTOR. These effects were seen in cultures and animals at a concentration of about 0.1% ethanol, which is just barely above the legal driving limit for blood alcohol. In other words, this effect could be very real in real-life, actual drinkers, not just in a laboratory.

This effect might wholly explain lower death rates in drinkers. There are reasons to think that less mTOR activation will decrease both heart disease and cancer rates. While drinkers have higher risks of certain cancers, especially of the esophagus, which alcohol directly contacts, they may have

lower risks of other forms of cancer, for instance [non-Hodgkin's lymphoma](#).

[mTOR also regulates insulin sensitivity](#), so there's another means by which alcohol could function as an anti-aging drug.

The mTOR effect is also consistent with [alcohol inhibiting muscle growth](#). In other words, drinking could cut your gains. It seems doubtful that this has much of an effect in those who train hard and drink moderately, but it does seem to account for [muscle wasting in alcoholics](#).

Is alcohol an anti-aging drug?

Despite my skepticism about the association between alcohol and better health, a lot of this research is compelling in my opinion. The mechanistic link with mTOR, which so tightly regulates aging, is another piece of evidence, and these effects seem to be compatible with the amount of alcohol drunk by real-world, moderate drinkers.

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