

Alcohol may have immediate effect on atrial fibrillation risk, events

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Alcohol appears to have an immediate—or near-immediate—effect on heart rhythm, significantly increasing the chance that an episode of atrial fibrillation (AFib) will occur, according to new data presented at the American College of Cardiology's 70th Annual Scientific Session.

The data revealed that just one glass of wine, beer or other alcoholic beverage was associated with twofold greater odds of an episode of AFib occurring within the next four hours. Among people having two or more drinks in one sitting, there was a more than threefold higher chance of experiencing AFib. Using an [alcohol](#) sensor placed on participants' ankles, which passively monitored [alcohol intake](#), the investigators found that every 0.1% increase in inferred [blood alcohol concentration](#) over the previous 12 hours was associated with an approximate 40% higher odds of an AFib episode. Evidence from those sensors also demonstrated that the total alcohol concentration over time also predicted the chance AFib would occur.

"Alcohol is the most commonly consumed drug in

the world, and there is still a lot we don't understand about what it does to our bodies and, in particular, our hearts," said Gregory M. Marcus, MD, cardiologist and professor of medicine at the University of California, San Francisco, and the study's lead author. "Based on our data, we found that alcohol can acutely influence the likelihood that an episode of AFib will occur within a few hours, and the more alcohol consumed, the higher the risk of having an event."

AFib is the most common heart rhythm disorder. It is often characterized by a rapid, chaotic and fluttery heartbeat. Marcus said that people can experience a range of symptoms. Some may not feel anything, while others are overcome with severe shortness of breath, fatigue, fainting or near fainting spells and a disconcerting sensation that the heart is beating out of control. AFib also results in costly use of health care services, including visits to the emergency department, hospitalizations and procedures each year. Over time, AFib can lead to heart failure, stroke and dementia if untreated.

Researchers enrolled 100 patients with paroxysmal or intermittent AFib, which tends to go away within a short period of time (unlike chronic AFib). Patients in the study were 64 years old on average; the majority were white (85%) or male (80%). Past medical history, medications and lifestyle habits were assessed through chart reviews and patient interviews. Each participant was fitted with a wearable heart monitor that continuously tracked their heart rhythm and an ankle sensor to objectively detect when more than two to three drinks were consumed on a given occasion. Participants were asked to press a button on the heart monitor each time they had an alcoholic drink. Finger stick blood tests measuring alcohol consumption in the previous few weeks were also used to corroborate self-reported drinking events. Because researchers used repeated measurements from the same individual, they served as their own control over time. Overall, more

than half (56) had an episode of AFib during the fourmen-week study.

"Patients have been telling us that alcohol is a trigger for AFib for a long time, but it's been hard, if not impossible, to study because there is a critical temporal relationship that requires a real-time assessment of alcohol intake and heart rhythm," Marcus said. "This is the first study to objectively demonstrate and quantify the real-time relationship between alcohol consumption and AFib episodes. While this study was limited to people with intermittent AFib, it's reasonable to extrapolate the fact that in many people alcohol may be the main trigger for an initial episode."

Marcus said there may be other factors—such as race/ethnicity, sex, genetics or other environmental exposures—that influence alcohol's effect on the heart in various ways and need to be studied. In addition, people often pair alcohol with foods that are high in sodium, while some pour a drink because they feel stressed, so there may be other things that play a role. The findings also run counter to previous reports about the potentially protective role of alcohol on heart health when used in moderation.

"There is conventional wisdom that alcohol is 'good' or 'healthy' for the heart, based on observational studies, but that relates to coronary heart disease and heart attack. These new data present an interesting conundrum regarding the overall risks versus benefits of alcohol in moderation," Marcus said. "But the data is very clear that more is not better when it comes to alcohol; those who drink more have a higher risk of [heart](#) attack and death."

Marcus added that this situation is a perfect example where precision medicine may play a clinically relevant role to help identify which patients are at high risk for alcohol-related AFib. Those who are not at high-risk of the harmful effects of alcohol might yet benefit from moderate alcohol consumption as another way to potentially protect them from coronary blockages and disease.

The general recommendation for daily [alcohol consumption](#) is no more than one standard alcoholic beverage a day for women and two for

"Still, when patients ask me what they can do to avoid an AFib episode, I tell them the evidence suggests that they should minimize, if not completely eliminate, alcohol. But we have to consider quality of life as well, which is both relevant to arrhythmia symptoms and the opportunity to enjoy a glass of wine once in a while for some. So, it's not as simple as instructing everyone to avoid alcohol," Marcus said.

As far as next steps, Marcus and his team will look at how these results, which are limited to those with intermittent AFib, may apply to the general population. They also hope to identify other factors that may influence the relationship between alcohol and AFib, including genetics.

Provided by American College of Cardiology

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