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Moderate Alcohol Consumption Linked With High Blood Pressure

Study among the first to suggest moderate drinking harms, rather than protects, heart health

Mar 07, 2019

Contact: Nicole Napoli, nnapoli@acc.org, 202-375-6523

WASHINGTON (Mar 07, 2019) - A study of more than 17,000 U.S. adults shows that moderate alcohol consumption—seven to 13 drinks per week—substantially raises one’s risk of high blood pressure, or hypertension, according to research being presented at the American College of Cardiology’s 68th Annual Scientific Session.

The findings contrast with some previous studies that have associated moderate drinking with a lower risk of some forms of heart disease. Most previous studies, however, have not assessed high blood pressure among moderate drinkers. Since hypertension is a leading risk factor for heart attack and stroke, the new study calls into question the notion that moderate alcohol consumption benefits heart health.

“I think this will be a turning point for clinical practice, as well as for future research, education and public health policy regarding alcohol consumption,” said Amer Aladin, MD, a cardiology fellow at Wake Forest Baptist Health and the study’s lead author. “It’s the first study showing that both heavy and moderate alcohol consumption can increase hypertension.”

Alcohol’s impact on blood pressure could stem from a variety of factors, according to researchers. Because alcohol increases appetite and is, itself, very energy-dense, drinking often leads to greater caloric intake overall. Alcohol’s activities in

the brain and liver could also contribute to spikes in blood pressure.

Data for the research came from the National Health and Nutrition Examination Study (NHANES), a large, decades-long study led by the Centers for Disease Control and Prevention. Specifically, the researchers analyzed data from 17,059 U.S. adults who enrolled in the NHANES study between 1988 and 1994, the NHANES phase with data that is considered most complete and representative of the U.S. population.

Participants reported their drinking behavior on several questionnaires administered by mail and in person. Their blood pressure was recorded by trained personnel during visits in participants' homes and at a mobile examination center.

The researchers split participants into three groups: those who never drank alcohol, those who had seven to 13 drinks per week (moderate drinkers) and those who had 14 or more drinks per week (heavy drinkers). They assessed hypertension according to the **2017 ACC/AHA high blood pressure guideline**, which defined Stage 1 hypertension as having systolic blood pressure between 130-139 or diastolic pressure between 80-89, and Stage 2 hypertension as having systolic pressure above 140 or diastolic pressure above 90.

Compared with those who never drank, moderate drinkers were 53 percent more likely to have stage 1 hypertension and twice as likely to have stage 2 hypertension. The pattern among heavy drinkers was even more pronounced; relative to those who never drank, heavy drinkers were 69 percent more likely to have stage 1 hypertension and 2.4 times as likely to have stage 2 hypertension. Overall, the average blood pressure was about 109/67 mm Hg among never-drinkers, 128/79 mm Hg among moderate drinkers and 153/82 mm Hg among heavy drinkers.

In their analysis, researchers adjusted for age, sex, race, income and cardiovascular risk to separate the effects from alcohol consumption from other factors with known links to hypertension.

Aladin said the study's large sample size likely helps explain why the findings appear to contrast with previous studies in this area. Studies involving fewer

participants or only one medical center would not have the same statistical power as one using a large, national data set such as NHANES.

“This study is not only large but diverse in terms of race and gender,” Aladin said. “The results are very informative for future research and practice. If you are drinking a moderate or large amount of alcohol, ask your provider to check your blood pressure at each visit and help you cut down your drinking and eventually quit.”

Researchers didn't find any significant difference in blood pressure and alcohol intake by gender or ethnic/racial background. They plan to further analyze the data for insights on how demographic factors might influence the relationship between alcohol consumption and high blood pressure.

Aladin will present the study, “Alcohol Consumption and Risk of Hypertension,” on Sunday, March 17, at 3:45 p.m. CT in the Prevention Moderated Poster Theatre, Poster Hall, Hall F.

The ACC's Annual Scientific Session will take place March 16–18, 2019 in New Orleans, bringing together cardiologists and cardiovascular specialists from around the world to share the newest discoveries in treatment and prevention. Follow [@ACCinTouch](#), [@ACCMediaCenter](#) and #ACC19 for the latest news from the meeting.

The American College of Cardiology envisions a world where innovation and knowledge optimize cardiovascular care and outcomes. As the professional home for the entire cardiovascular care team, the mission of the College and its more than 52,000 members is to transform cardiovascular care and to improve heart health. The ACC bestows credentials upon cardiovascular professionals who meet stringent qualifications and leads in the formation of health policy, standards and guidelines. The College also provides professional medical education, disseminates cardiovascular research through its world-renowned *JACC Journals*, operates national registries to measure and improve care, and offers cardiovascular accreditation to hospitals and institutions. For more, visit acc.org.

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