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## Moderate Alcohol Consumption May Lower Dementia Risk in Cognitively Normal Elderly

Caroline Cassels

July 22, 2009 (Vienna, Austria) — Moderate alcohol consumption may lower dementia risk in cognitively normal older subjects, but any level of alcohol consumption in individuals with mild cognitive impairment (MCI) appears to be detrimental.



**Dr. Kaycee M. Sink**

These findings, presented here at the Alzheimer's Association 2009 International Conference on Alzheimer's Disease (ICAD 2009) by investigators from Wake Forest University School of Medicine, in Winston-Salem, North Carolina, show that cognitively normal individuals who consumed 1 to 7 drinks per week had a 37% reduced risk for dementia over 6 years compared with nondrinkers.

However, in those with MCI, any level of alcohol consumption was linked to greater cognitive decline, with heavy drinkers — defined as those who drink more than 14 alcoholic drinks per week — almost twice as likely to progress to dementia over 6 years compared with nondrinkers.

"This is an observational study, so there's no causal link that can be drawn. But we can say that for cognitively healthy older adults, a moderate alcohol intake might help prevent dementia and supports the current US recommended guidelines not to exceed 2

drinks a day for men or 1 drink a day for women. But for older adults with MCI, our results would support restricting alcohol intake," lead investigator Kaycee M. Sink, MD, told reporters attending a press conference.

### **Protective Effect in Older Individuals Unclear**

Light to moderate alcohol intake has been associated with a reduced risk of myocardial infarction, stroke, and renal dysfunction as well as all-cause mortality. In addition, said Dr. Sink, it has also been linked to a reduced risk for dementia in middle age.

However, she said, it is not clear whether this association is also true for the older adults or for those who already have MCI.

To determine the relationship between alcohol intake and the development of dementia as well as its impact on cognition, the researchers used a sample of 3069 cognitively normal study subjects aged 75 years and older who were participants in the Ginkgo Evaluation of Memory Study (GEMS), a randomized control trial comparing ginkgo biloba and placebo.

Participants underwent a complete assessment of cognition at the start of the study and were classified as cognitively normal or as having MCI and were followed every 6 months for a period of 6 years.

Alcohol intake was assessed according to baseline self-report, in which subjects were asked about their intake of beer, wine and liquor, the number of drinks, and frequency.

Subjects were then categorized according to their alcohol intake as:

- Abstainers.
- Light drinkers (1 to 7 drinks per week or less).
- Moderate drinkers (8 to 14 drinks per week).
- Heavy drinkers (More than 14 drinks per week).

Approximately 40% of the group were abstainers and another 40% were light drinkers. About 10% were moderate drinkers and 10% heavy drinkers.

The study's primary outcome was changes in the modified Mini Mental State Exam (3MSE). According to Dr. Sink, drinkers and nondrinkers were well matched with respect to age, education, level, cardiovascular disease status, and baseline MCI.

At the end of the follow-up period, the researchers found that, among cognitively normal older adults, moderate alcohol intake was associated with the lowest risk for dementia. This was followed by light drinkers and heavy drinkers. Interestingly cognitively normal abstainers progressed to dementia the fastest.

However, among individuals with MCI at study outset, alcohol consumption of any amount was associated with more rapid rates of cognitive decline. In addition, those who were classified as

heavy drinkers were almost twice as likely to develop dementia during the study compared with nondrinkers with MCI.

"In individuals with MCI, there is a very clear stepwise pattern associated with the amount of alcohol they were drinking, with the heaviest drinkers declining 6.5 points [on the 3MSE] over the study period and the abstainers declining only 2.5 points," said Dr. Sink.

### **Several Potential Mechanisms**

While it is not clear why alcohol may be protective in cognitively normal individuals vs those who are compromised, said Dr. Sink, there are several potential mechanisms.

For example, she said, it is possible that some of the same mechanisms that cause alcohol to help guard against cardiovascular disease — namely, its ability to boost high-density lipoprotein and inhibit platelet aggregation — may also protect against dementia.

Another possible mechanism is related to alcohol's ability to modulate acetylcholine in the brain. "Acetylcholine is important for memory, and it has been shown that at low doses alcohol stimulates acetylcholine release and at higher doses it inhibits it," she said.

As to the reason alcohol is not beneficial in the presence of MCI, Dr. Sink said it is possible that once the neurodegeneration process is under way, any potential benefit of alcohol may be overwhelmed by the disease process. However, she added, all of these are only potential hypotheses that require further investigation.

Asked by *Medscape Neurology* to comment on the research, William Thies, PhD, chief medical and scientific officer of the Alzheimer's Association, said the observed protective effect is "good news" for cognitively normal individuals who are moderate drinkers. However, he added, the study provides a clear message that those with cognitive difficulties should reconsider their drinking habits. He also added that taking up drinking should not be considered as a way of preventing dementia.

"This study tells us that if you have a drink or 2 a day and you are healthy, you can keep doing that without much worry and possibly some benefit. This research and I think the take-home message is that [moderate drinking] is something you don't have to worry about, vs that it should be viewed as a therapeutic intervention," said Dr. Thies.

*The authors report no conflicts of interest.*

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Caroline Cassels is the news editor for Medscape Psychiatry. A medical and health journalist for 20 years, Caroline has written extensively for both physician and consumer audiences. She helped launch and was the editor of Health Digest, an award-winning Canadian consumer health publication. She was also national editor of the Heart & Stroke Foundation of Canada's Web site before joining Medscape Neurology & Neurosurgery in 2005. She is the recipient of the 2008 American Academy of Neurology Journalism Fellowship Award. She can be contacted at [CCassels@webmd.net](mailto:CCassels@webmd.net).

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