Alcohol intake and quantitative MRI findings among community dwelling Japanese subjects.


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Abstract

BACKGROUND AND PURPOSE: The relationship between alcohol consumption and subclinical findings on magnetic resonance imaging (MRI) remains uncertain. We examined the relationship between light to moderate alcohol intake and

• silent brain infarction (SBI) (a brain lesion that is presumably a result of vascular occlusion. It is considered a precursor of symptomatic stroke and progressive brain damage that may be associated with vascular dementia.
• white matter lesions (WMLs) (a possible risk factor for early cognitive impairment and possibly Alzheimer's disease.
• cerebral atrophy.

METHODS: Cranial MRI was performed on subjects >or=40 years residing in a rural community in Japan (n=385; mean age, 67.2). Alcohol intake and type was determined using a detailed questionnaire; subjects were categorized into three groups: non-drinkers, light drinkers (<7 drinks per week), and moderate drinkers (>or=7 drinks per week). Former drinkers were considered non-drinkers. Periventricular WMLs, deep WMLs and cerebral atrophy were measured quantitatively using a computer-assisted processing system (%PVWML, %DWML, and %Brain, respectively).

RESULTS: Compared with non-drinkers, the prevalence odds ratios for SBI were significantly higher in light and moderate drinkers, after multivariate adjustment. After adjusting for age, sex, and other related factors, the geometric mean %PVWML volumes in light and moderate drinkers were 1.27% and 1.52%, respectively, significantly larger than those for non-drinkers (0.95%).

The geometric mean %DWML volume in light drinkers was 0.10%, which was larger than the value for non-drinkers (0.06%); the value for moderate drinkers (0.13%) was significantly larger than that for non-drinkers.

The geometric mean %Brain values for non-, light, and moderate drinkers were 92.1, 91.9 and 90.8%, respectively; a statistically significant difference was found between non-drinkers and moderate drinkers.

CONCLUSIONS: The present study indicates that regular drinking, including even low levels of consumption, may be a risk factor for subclinical findings detected on MRI in community-dwelling Japanese people.

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