

Glycine May Relieve Insomnia, Gastric Ulcers

A Japanese agricultural products firm, Ajinomoto Co., recently announced that it may develop an insomnia treatment based on the amino acid glycine. According to a report published by Asia Pulse news service, Ajinomoto researchers conducted studies on men and women with sleep difficulties that appear to show that glycine supplementation promotes deep sleep.

Subjects who took three grams of glycine within an hour of bedtime reportedly fell asleep—and exhibited brainwave patterns associated with deep, non-REM sleep—sooner than control subjects who did not supplement. Subjects reported feeling refreshed on waking, with no indication that glycine produced “morning hang-over,” a foggy feeling often associated with the use of prescription sleep aids.

Glycine, an amino acid, is known to accumulate in the pineal gland of rodents during sleep,¹ and is believed to play an important role in “disconnecting” the brain from the body during REM (rapid eye movement) sleep cycles.² REM is a recurring sleep state characterized by rapid eye movements and vivid dreaming. Previous research has shown that glycine supplementation improves memory and attention in young, middle-aged, and older adults.^{3,4}

Glycine has received attention recently as a potential treatment for other maladies. Japanese researchers, for instance, investigated its potential as an antibacterial agent for the treatment of antibiotic-resistant *H. pylori* bacteria, which often infect the stomach lining. *H. pylori* infection is believed to be an underlying cause of many gastric ulcers. In laboratory experiments, the scientists demonstrated that glycine acted alone to reduce *H. pylori* infection. When combined with amoxicillin, a common generic antibiotic, glycine reduced by a factor of 10 the amount of amoxicillin needed to kill the troublesome bacteria.⁵

—Dale Kiefer

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Vitamin C Restores Healthy Blood Flow in Smokers

Japanese scientists report that regular consumption of the powerful antioxidant vitamin C may help reverse vasoconstriction, or narrowing of the arteries, in smokers, specifically by targeting the impaired endothelial function that causes this condition.¹

Smoking boosts oxidative stress and produces vasoconstriction,² which may increase the risk of related conditions such as coronary heart disease, heart attack, aortic aneurysm, and stroke.³ The endothelium, a layer of cells lining the interior of blood vessels, produces coronary-related compounds that regulate vascular tone, such as nitric oxide.⁴

To test vitamin C's effects on coronary health, researchers at Chiba University, Japan, recruited 25 patients, 13 of whom were otherwise healthy smokers and 12 who were nonsmokers. Using a monitoring test known as transthoracic Doppler echocardiography, the team evaluated coronary blood flow in each patient, both while at rest and during moments of increased blood flow. Blood flow and levels of vitamin C were measured at baseline and then at two and four hours following intake of vitamin C.

At the study's onset, blood flow was greatly increased in nonsmokers compared to smokers. However, at the study's end, the smokers' blood flow rates had increased significantly, while the nonsmokers' blood flow was unchanged. The study authors concluded that vitamin C helps relieve the vasoconstriction that can occur in chronic smokers.

—Linda M. Smith, RN

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