Popular Indian Spice May Prevent Alzheimer's

Curcumin, a yellow spice used in traditional Indian curry dishes, may help prevent and treat Alzheimer's disease (AD).

AD, an irreversible, progressive neurological disorder, disrupts normal behaviour and thinking and is characterized by memory loss, disorientation, confusion, delusions, hallucinations, depression, insomnia, and anxiety. The average time between the onset of symptoms and death is about 8 years, although some people may live longer than 20 years.

The brains of people with AD show accumulations of a protein called beta-amyloid. Beta-amyloid deposits contribute to tangles of brain tissue and dense areas called plaques that form in the brain. These accumulations lead to tissue death and eventually cause the symptoms associated with AD. One approach to AD prevention and treatment is to decrease beta-amyloid production in the brain.

AD risk decreases when more antioxidant-rich foods are eaten (e.g. blueberries, spinach, sweet potatoes). Certain anti-inflammatory medications such as naproxen and ibuprofen also seem to protect against the disease.

Curcumin has potent anti-inflammatory and antioxidant properties with a very low risk of toxicity. It has also been shown in previous animal studies to decrease the accumulation of amyloid. Interestingly, the prevalence of AD in India, where curcumin is a staple spice, is much lower than it is in western countries.
The new study investigated the effect of curcumin in mice that were altered to have human AD genes. The mice were fed diets containing 500 parts per million of curcumin or a control diet containing safflower oil until they were 22 months old. At this point, their brains were examined for evidence of beta-amyloid accumulation. The effects of curcumin on beta-amyloid accumulation were also compared with those of the nonsteroidal anti-inflammatory (NSAID) medications naproxen and ibuprofen.
The aggregation (clumping) of beta-amyloid protein was significantly inhibited in mice that were fed curcumin compared with the mice that were fed the control diet. With higher doses of curcumin, clumps of beta-amyloid were broken up, suggesting that curcumin can inhibit new plaques from forming, as well as break up existing plaques more strongly than naproxen and ibuprofen.

The amount of curcumin used in the study is easily achievable through diet and supplementation; however, additional studies are needed to determine whether curcumin is effective in humans and how much is needed. Curcumin is also under current investigation as an anticancer agent. Cancer patients have taken between 2 and 8 grams of curcumin per day without any adverse effects.

By Kimberly Beauchamp, ND. Journal of Biological Chemistry (December 7, 2004).