

Green, black tea can reduce stroke risk

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(PhysOrg.com) -- Drinking at least three cups of green or black tea a day can significantly reduce the risk of stroke, a new UCLA study has found. And the more you drink, the better your odds of staving off a stroke.

The study results, published in the online edition of *Stroke: Journal of the American Heart Association*, were presented Feb. 19 at the American Heart Association's annual International Stroke Conference in San Diego, Calif.

The UCLA researchers conducted an evidence-based review of all human observational studies on stroke and tea consumption found in the PubMed and Web of Science archives. They found nine studies describing 4,378 strokes among nearly 195,000 individuals, according to lead author Lenore Arab, a professor of medicine in the division of general internal medicine and health services research at the David Geffen School of Medicine at UCLA.

"What we saw was that there was a consistency of effect of appreciable magnitude," said Arab, who is also a professor of biological chemistry. "By drinking three cups of tea a day, the risk of a stroke was reduced by 21 percent. It didn't matter if it was green or black tea."

And extrapolating from the data, the effect appears to be linear, Arab said. For instance, if one drinks three cups a day, the risk falls by 21 percent; follow that with another three cups and the risk drops another 21 percent.

This effect was found in tea made from the plant *Camellia sinensis*, not from herbal teas.

There are very few known ways to reduce the risk of stroke, Arab said. And developing medications for stroke victims is particularly challenging, given that the drug has to get to the stroke-damaged site quickly because damage occurs so fast. Arab said that by the time a stroke victim gets medical care, it's nearly too late to impede the damage.

"That's why these findings are so exciting," she said. "If we can find a way to prevent the stroke, or prevent the damage, that is simple and not toxic, that would be a great advance."

Though no one is certain which compounds in tea are responsible for this effect, researchers have speculated that the antioxidant epigallocatechin gallate (EGCG) or the amino acid theanine may be what helps. Antioxidants are believed to help prevent coronary artery disease.

"And we do know that theanine is nearly 100-percent absorbed," Arab said. "It gets across the blood-brain barrier and it looks a lot like a molecule that's very similar to glutamate, and glutamate release is associated with stroke.

"It could be that theanine and glutamate compete for the glutamate receptor in the brain," she added.

Although a randomized clinical trial is needed to confirm this effect, the findings suggest that drinking three cups of green or black tea a day could help prevent an ischemic stroke.

Study co-authors with Arab are Weiqing Liu, a senior statistician in the UCLA Department of Biomathematics, and David Elashoff, associate

professor of medicine in the division of general internal medicine and health services research at the David Geffen School of Medicine at UCLA.

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