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Fewer Brain 'Tangles' May Mean Smarter Old Age **Autopsies of quick-witted elderly hint at how they stayed that way**

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MONDAY, Nov. 17 (HealthDay News) -- Differences in the brains of elderly people may help explain why some develop dementia while others are among the "super aged" -- people who maintain sharp mental focus and ability well into old age.

In a preliminary study, researchers have found that the brains of these still-sharp folks over 80 have none, or very little, of the protein "tangles" that are a hallmark of Alzheimer's disease.

"Both plaques and tangles are what we consider the pathology of Alzheimer's but [only] when they occur in very, very high quantities," explained study principal investigator, Changiz Geula, research professor of neuroscience at the Cognitive Neurology and Alzheimer's Disease Center at Northwestern's Feinberg School of Medicine in Chicago. "In the elderly, they're nearly always present in much smaller quantities, but what we are finding is that in the super aged, in some cases, they may be completely absent or in small quantities."

Geula was expected to present his findings Sunday at the annual meeting of the Society for Neuroscience, in Washington, D.C.

Clinicians urged caution in interpreting the results, arguing that they don't necessarily break new ground.

"I think this is preliminary; I would not read too much into it," said Dr. Marshall Keilson, director of neurology at Maimonides Medical Center in New York City. "We don't really know which of these various pathologies are the key factors in causing Alzheimer's. It's still a question after years and years."

"The truth of the matter is that people who have memory disorders as they get older have it because of changes in the brain," added Dr. Evelyn C. Granieri, chief of geriatric aging and medicine at Columbia University College of Physicians and Surgeons in New York City. "Some are going to escape that pathology, and we don't really know why people develop it or not," Granieri added.

Many individuals who survive to old age suffer a trade-off of declining mental function.

But there are others who can finish crossword puzzles in record time well into their 90s, or who can remember conversations that took place 5 minutes or 50 years before.

Geula and his colleagues examined the brains of five of these deceased "super-aged" individuals.

They were considered super-aged if, at 80 years or older, they had the cognitive performance of a 50-year-old; if they had not declined cognitively in at least three years; if they were involved in social and personal activities and/or had achieved a major life accomplishment (such as writing and publishing a book) as an octogenarian or later.

The brains of the super-aged had fewer neurofibrillary "tangles" than did those of people who had aged normally.

These tangles, consisting of a protein called tau, are thought to cause memory and other decline in people with Alzheimer's.

Amyloid-protein plaques, which also accumulate in the brains of people with Alzheimer's, were present in both groups.

Said Mark Mapstone, associate professor of neurology at the University of Rochester Medical Center, "They are looking at what goes right with aging and going forward with that. The eventual goal would be to do things that promote what goes right before people start to hit old age."

"The study is very innovative in the sense that most previous attempts have started with the disease end of the spectrum, and this is obviously the other side of the coin," he added. "Very few have pulled it together in this sort of comprehensive manner."

Mapstone completed his Ph.D. with two of the co-authors of the study.

More information

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