

UK doctors study link between Down syndrome and Alzheimer's

By Dr. Elizabeth Head and Dr. Frederick Schmitt — Special to The Herald-Leader

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Individuals with Down syndrome are living longer than ever, and they face increased risks of age-related conditions such as Alzheimer's disease. In fact, due to an extra copy of a chromosome, people with Down syndrome produce extra Alzheimer's-linked proteins in their brains.

Like all people with Alzheimer's disease, people with Down syndrome develop plaques and tangles in their brains, but they do so at a younger age than people who don't have Down syndrome.

Research has shown that virtually all individuals with Down syndrome have Alzheimer's-like changes in their brains by age 40, although they might not develop dementia until age 50 or later.

During this approximately 10-year period, although the brain appears to have protein changes consistent with dementia, individuals continue to function at their usual levels.

This same thing occurs in the general population, as many participants in the UK Sanders-Brown Center on Aging brain donation program come to autopsy with full-blown Alzheimer's pathology in their brains but no record of clinical dementia symptoms during life.

Working to understand how the brains of individuals with Down syndrome adapt to aging might hold keys to unraveling the mysteries of Alzheimer's disease. If we as investigators learn how people can continue to function normally while their brains develop physical manifestations of Alzheimer's, we might be one step closer to heading off dementia in millions of people.

Because the brain aging process is in many ways accelerated in people with Down syndrome, working with these individuals is an ideal way to study how we can prolong normal brain function for individuals with Down syndrome and the general population.

To this end, we are conducting a research study involving participants 35 and older who have Down syndrome. The study is funded by the National Institute of Child Health and Human Development. Participants are asked to come to the University of Kentucky every six months throughout the five-year study to give a blood sample, take thinking and memory tests, have a neurological exam, and undergo a MRI brain scan.

Our goal is to recruit and study 40 adults with Down syndrome who do not have signs of dementia, and 10 to 12 adults with Down syndrome who have been diagnosed with dementia. Those who already have dementia will come to UK only once.

While adults with Down syndrome are predisposed to Alzheimer's disease, there is hope. We are learning much from their experiences and hope that our research will result in knowledge that can improve the quality of life for individuals with Down syndrome and their families, and for those with Alzheimer's and related dementia.

For more information, go to Uky.edu/dsaging or call Roberta Davis at (859) 257-1412, Ext. 479.

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Read more: <http://www.kentucky.com/2011/08/21/1852346/uk-doctors-study-link-between.html#storylink=misearch#ixzz1Vr0VoS00>