MedicalXpress

Common epilepsy drug could prevent and treat Alzheimer's disease

October 27 2008

The team led by UBC Psychiatry Prof. Weihong Song, who is also the Jack Brown and Family Professor and Chair in Alzheimer's Disease at UBC, found that if Valproic Acid (VPA) is used as a treatment in early stages of AD memory deficit is reversed.

The study, published in the Journal of Experimental Medicine, reveals that VPA works by inhibiting the activity of an enzyme that produces a neurotoxic protein called beta Amyloid. In doing so, plaque formation is discontinued. Amyloid beta-proteins are the central component of neurotoxic plaques in AD.

"We found that if we used VPA in the early stage of Alzheimer's disease, in model mice, it reduced plaque formation and further prevented brain cell death and axon damage," says Song, who is a Canada Research Chair in Alzheimer's disease and Director of the Townsend Family Laboratories in UBC's Faculty of Medicine. "The drug also improved performance in memory tests."

The results will help inform the design of human clinical trials because researchers now understand the mechanisms and pathology of VPA in AD animal models.

"We are very excited about these results because we now know when VPA should be administered to be most effective and we now know how VPA is working to prevent AD," says Song, who is also a member of the Brain Research Centre at UBC and VCHRI. "A small human clinical

trial is currently underway and we expect results to be available in the next year."

AD is a neurodegenerative disorder characterized by progressive cognitive deterioration and is the most common form of dementia. The Alzheimer Society of Canada estimates that AD affects close to 300,000 Canadians and accounts for two-thirds of all cases of dementia. By 2031, about 750,000 Canadians will suffer from AD and related dementias.

Source: University of British Columbia