MedicalXpress

# Marijuana ineffective as an Alzheimer's treatment: research

February 8 2010

The benefits of marijuana in tempering or reversing the effects of Alzheimer's disease have been challenged in a new study by researchers at the University of British Columbia and Vancouver Coastal Health Research Institute.

The findings, published in the current issue of the journal *Current Alzheimer Research,* could lower expectations about the benefits of medical marijuana in combating various cognitive diseases and help redirect future research to more promising therapeutics.

Previous studies using animal models showed that HU210, a synthetic form of the compounds found in marijuana, reduced the toxicity of plaques and promoted the growth of new neurons. Those studies used rats carrying amyloid protein, the toxin that forms plaques in the brains of Alzheimer's victims.

The new study, led by Dr. Weihong Song, Canada Research Chair in Alzheimer's Disease and a professor of psychiatry in the UBC Faculty of Medicine, was the first to test those findings using mice carrying human genetic mutations that cause Alzheimer's disease - widely considered to be a more accurate model for the disease in humans.

"As scientists, we begin every study hoping to be able to confirm beneficial effects of potential therapies, and we hoped to confirm this for the use of medical marijuana in treating Alzheimer's disease," says Song, a member of the Brain Research Centre at UBC and VCH

Research Institute and Director of Townsend Family Laboratories at UBC.

"But we didn't see any benefit at all. Instead, our study pointed to some detrimental effects."

Over a period of several weeks, some of the Alzheimer's-afflicted mice were given varying doses of HU210 - also known as cannabinoids - which is 100 to 800 times more potent than the marijuana compounds. Their memory was then tested.

The mice treated with HU210 did no better than untreated mice, with those given low doses of HU210 performing the worst. The researchers also found that HU210-treated mice had just as much plaque formation and the same density of neurons as the control group. The group given higher doses actually had fewer brain cells.

"Our study shows that HU210 has no biological or behavioural effect on the established Alzheimer's disease model," says Song, the Jack Brown and Family Professor and Chair in Alzheimer's Disease. "More studies should be done before we place much hope in marijuana's benefits for Alzheimer's patients."

Provided by University of British Columbia