Curcumin May Reduce Amyloid Protein Plaques Associated with Brain Health

Scientists recently discovered that curcumin reduces the amyloid protein plaques associated with Alzheimer's disease.

The study, conducted in rats, revealed that curcumin reduces amyloid plaque build up in the brains and also reduces the brains response to the amyloid. In humans, the buildup of amyloid protein plaques within the brain is associated with Alzheimer's disease.

Researcher Dr. Sally Frautschy of the University of California, Los Angeles, who conducted the curcumin study, presented her findings at the annual meeting of the Society for Neuroscience in San Diego, California. To mimic the progression of Alzheimer's disease, Frautschy injected amyloid in the animals brains.

She then fed middle-aged (9 months old) and aged (22 months old) rats curcumin-rich diets. Curcumin reduced the accumulation of amyloid deposits and the accompanying loss of proteins in the spaces (known as synapses) between brain cells. Synapses, which link nerve cells, help control memory. The decline of synapses seen in Alzheimer's often occurs simultaneously with the deterioration of memory.

By preventing the loss of proteins in synapses, the curcumin found in turmeric also may help improve memory. In memory-dependent maze tests, rats fed curcumin performed significantly better compared to rats fed diets without the turmeric-derived spice. Curcumin also appeared to act as an anti-inflammatory in Alzheimer's-related inflammation occurring in neurologic tissue.

These results may explain why Alzheimer's disease rates are much lower among the elderly in India compared with senior citizens consuming a Western diet. Studies have shown that elderly individuals who reside in villages in India have the lowest incidence of Alzheimer's disease in the world. In fact, just 1% of those aged 65 and older in India develop Alzheimer's.