Spirulina reduces stroke damage in rats

Rats fed diets enriched with spirulina experienced less brain-cell loss and improved recovery of movement following a stroke, according to researchers at the University of South Florida College of Medicine, James A. Haley Veterans' Hospital and the National Institute on Drug Abuse. Their findings were published in *Experimental Neurology*.

In this study, the researchers fed one group of rats a control diet and the other, a diet supplemented with equal amounts of blueberry, spinach or spirulina for four weeks prior to the experiment. The experiment involved the interruption of blood flow to the brain (ischemia) for 60 minutes to induce stroke, followed by reestablishment of blood flow (reperfusion). Researchers then measured physical damage to the brain, as well as movement. Rats fed spirulina-enriched diets had stroke lesions that were 75% smaller than those in their untreated counterparts. Among the three enrichment diets used, animals pretreated with spirulina had the least physical brain damage and the least brain cell death. In addition, rats pretreated with the blueberry, spinach or spirulina diets showed greater increases in post-stroke movements.

The researchers believe that this brain-protective effect is due to the scavenging of free radicals by the antioxidant phytonutrients contained in spirulina and in fruits and vegetables. "I was amazed at the extent of neuroprotection these antioxidant-rich diets provide," said lead researcher Dr. Paula Bickford. "The clinical implication is that increasing fruit and vegetable consumption may make a difference in the severity of a stroke. It could be a readily available, inexpensive and relatively safe way to benefit stroke patients."

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