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Late-breaking brief news items to life extensionists, as well as anyone interested in living a longer healthier life.

In The News

The Magic of Soy Beans



Lately, soybeans have become the center of attention for researchers worldwide. Concentrated sources of isoflavones, soy-based products appear to play a significant role in the treatment and prevention of cancer and osteoporosis. And a recent study has given the medical community further reason to treat the beans with respect.

In a study published in the *Journal of Nutrition* (1999;1291075-1078), scientists found that isoflavones reduced metastasis of melanoma cells and, at the higher doses, even reduced tumor size. The study looked at the effect of dietary supplementation with isoflavones on pulmonary metastasis of murine melanoma cells in mice. Mice were fed a basal diet or a basal diet supplemented with the isoflavones genistein and daidzein, of varying doses, two weeks prior to and after they were injected with melanoma cells. At necropsy, the number and size of lung tumors were determined.

In the group receiving the highest doses of soy isoflavones, there was a 74% reduction in the median number of metastatic tumors to the lungs. The study showed that the higher doses of isoflavones significantly decreased tumor size and volume, in addition to reducing the number of metastatic lesions. These findings offer hope for those affected with cancer, as dietary supplementation with isoflavones may have an inhibiting effect on the disease. And the fact that the medical community is engaging in such studies is encouraging. Based on these types of studies, cancer patients are taking up to 5,600 milligrams of supplemental soy isoflavones per day.

Octacosanol and Naloxone in Parkinsonism

Parkinson's disease is a movement disorder resulting from a loss of dopamine-producing cells in the region of the brain known as the substantia nigra. Neuronal pathways that involve the substantia nigra utilize a chemical called dopamine; these pathways are involved with the control of movement of the body. A loss of dopamine-producing neurons in the substantia nigra, therefore, produces impairments in movement. Parkinson's disease patients experience symptoms such as a resting hand tremor, stooped posture, shuffling gait, expressionless face and stiffness of movement.

Octacosanol, an active ingredient found in wheat germ oil, has been reported to be of benefit to some Parkinson's patients. It attracted scientific interest when it was found to enhance the swimming performance of guinea pigs during wheat germ studies. Octacosanol was also reported that octacosanol boosted androgen production when administered to chicks. Another study suggested that octacosanol improved oxygen utilization in rats that experienced a more rapid reproduction time when given the drug. There have been several claims of the drug's ability to increase strength and endurance and it has, therefore, been used by athletes for this purpose.

Claims attesting to the latter led to the development of a six-week double-blind, placebo-controlled, randomized crossover trial of octacosanol involving patients with idiopathic parkinsonism. Ten patients with mild to moderate idiopathic parkinsonism were given three daily doses of either 5 mg of octacosanol in a wheat germ oil base or of similar placebo. Results were based on an analysis of a parkinsonism self-appraisal rating form on which the patients were asked to rate themselves on activities of daily living, mood, endurance and parkinsonism symptoms.

Significant improvement was reported by three of the ten patients. The improvement was found with respect to the activities of daily

living, and not with respect to endurance and symptoms of parkinsonism. The study demonstrates octacosanol's potential effectiveness in a subset of patients with idiopathic parkinsonism due not only to its ability to potentially improve activities of daily living, but also to its infrequent occurrence of side effects including a mild, positional dizziness, a small increase in nervous tension, and a strengthening of carbidopa-levodopa-related dyskinesias (defects in movements that are in this case related to carbidopa-levodopa treatment).

Speaking of carbidopa-levodopa, there are side effects of this two-drug combination that present a concern. In addition to its propensity for causing dyskinesia, it is also known to produce hallucinations in patients with chronic, full blown Parkinson's disease. Since Parkinson's results from a loss of dopamine-producing neurons in the region of the brain known as the substantia nigra, the obvious remedy is to somehow increase the dopamine level in this brain region. However, since dopamine itself cannot cross the blood-brain barrier its immediate metabolic precursor, levodopa, is given which does cross the blood-brain barrier and is converted to dopamine once it reaches the brain. Even as such, most of the levodopa is decarboxylated in the small intestine, leaving only a very small percentage of the drug that is available to go on to the brain. Therefore, a decarboxylase inhibitor, carbidopa, is given in combination with levodopa in order to increase the amount of levodopa that can travel to the brain.

Despite its role as the mainstay of treatment for Parkinson's disease, levodopa is known to cause a number of side effects, hallucinations being one of them.

It has been reported that naloxone, an opioid antagonist, is effective in reversing hallucinations in schizophrenic patients. It has also been reported that naloxone is effective in improving dyskinesias in Parkinson's patients. Since naloxone has been given a considerable amount of attention in such areas, a study was done in order to test the drug's effectiveness in controlling levodopa-induced hallucinations.

Two Parkinson's patients, with a two- and four-year history of the disease, being treated with levodopa-carbidopa and muscle relaxant orphenadrine, were involved in this double-blind study. The participants were given a solution of either 100 ml of saline containing 2 mg of naloxone or 100 ml of saline alone. One week later the experiment was repeated using the alternate solution. It was found that naloxone increased the number and severity of hallucinations while the placebo had no apparent effect.

So although naloxone may have its benefits in certain areas of levodopa-induced side effects, the controlling of hallucinations does not seem to be one of them.

-Kapil Gupta

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