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Smoking Worsens Multiple Sclerosis

Raised risk of brain lesions and shrinkage, researchers found

By Kathleen Doheny
HealthDay Reporter

MONDAY, Aug. 17 (HealthDay News) -- Patients with multiple sclerosis who smoke appear to be at higher risk for the brain lesions linked with the disease and for brain shrinkage, new research suggests.

"Our study is showing that MS is more destructive as seen on MRI in smokers than nonsmokers," said study co-author Dr. Bianca Weinstock-Guttman, director of the Baird MS Center and Pediatric MS Center of Excellence at the State University of New York at Buffalo. The study appears in the Aug. 18 issue of *Neurology*.



Researchers have known that smoking boosts the risk of getting MS, but the effect of smoking after diagnosis has been studied less often.

MS, a chronic disease that attacks the central nervous system, including the spinal cord, brain and optic nerve, affects about 400,000 Americans, according to the National Multiple Sclerosis Society. Symptoms can be mild, such as limb numbness, or severe, such as loss of vision or paralysis.

The different courses that MS can take include relapsing and remitting, progressive, or progressive and relapsing, the society says.

Weinstock-Guttman and her colleagues evaluated 368 MS patients, average age 44, who had been diagnosed about 12 years earlier. Of the 368 patients, 240 had never smoked, 96 smoked currently and 32 had smoked in the past.

All patients were evaluated clinically and had an MRI to monitor the disease process and evaluate the effects of treatments. The MRI measured the size of the MS-related brain lesions and the brain shrinkage that can occur with age and with MS.

Smokers with MS had nearly 17 percent more brain lesions than nonsmokers with MS. Smokers with MS also had more brain tissue shrinkage.

Exactly why smoking has this effect isn't known, Weinstock-Guttman said. However, she suspects that nicotine may disrupt the blood-brain barrier, and the toxins in cigarette smoke may be a constant, inflammatory irritant. "Smokers aren't able to repair themselves" due to the constant presence of the toxins from cigarette smoke, she explained. So, the inflammation that is characteristic of the disease never goes away, setting patients up for worsening disease.

The recent study lends weight to the conclusion, reached in some but not all previous studies, that smoking does in fact worsen MS symptoms, said Dr. John Richert, executive vice president for research and clinical programs for the National Multiple Sclerosis Society, which helped to fund the study.

In the past few years, he said, some studies have reached conflicting conclusions about the effect of smoking on MS symptoms. But with the latest finding, he said, it tips the balance and confirms that smoking does indeed seem to worsen the symptoms.

"I think the most current paper is probably right," he said. "It certainly is consistent with the data that shows that smoking increases the risk of developing MS in the first place."

MS patients should give up smoking for general health reasons anyway, Richert added. "Now we can add another reason, that it might make your MS worse, according to two of three studies."

Weinstock-Guttman said her MS patients who smoke have been receptive to the new information. "They are much more open now to considering quitting smoking," she noted.

Smoking is also linked to worsening of psoriasis. In an Italian study, people with psoriasis who smoked 20 cigarettes a day had twice the risk of more severe symptoms than those who smoked less than 10 cigarettes a day. The effects were more pronounced among women than men, the researchers found.

More information

To learn more about multiple sclerosis, visit the [National Multiple Sclerosis Society](#).

SOURCES: Bianca Weinstock-Guttman, M.D., associate professor, neurology, and director, Baird MS Center and Pediatric MS Center of Excellence, Jacobs Neurological Institute, State University of New York at Buffalo; John Richert, M.D., executive vice president, research and clinical programs, National Multiple Sclerosis Society, New York City; Aug. 18, 2009, *Neurology*

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