

Plastic surgeons identify link between migraines and carpal tunnel syndrome

April 27 2015



Dr. Douglas Sammer, Associate Professor of Plastic Surgery and Orthopaedic Surgery, and Chief of the Hand and Upper Extremities Division in Plastic Surgery at UT Southwestern Medical Center. Credit: UT Southwestern Medical Center

Plastic surgeons at UT Southwestern Medical Center have demonstrated

for the first time an association between migraines and carpal tunnel syndrome, with migraines more than twice as prevalent in those with carpal tunnel syndrome as those without, according to the study.

Researchers found that 34 percent of patients with [carpal tunnel syndrome](#) also reported migraines, compared to 16 percent of patients reporting migraines without carpal tunnel syndrome. Researchers also found the reverse: 8 percent of patients with migraines reported having carpal tunnel syndrome, compared to 3 percent of those with migraines but no carpal tunnel syndrome.

"Because carpal tunnel syndrome and [migraine headache](#) are so common, this association is relevant to the large number of people who suffer from these conditions. The association of these two distinct disease processes is a fascinating connection that needs to be explored further," said Dr. Douglas Sammer, Associate Professor of Plastic Surgery and Orthopaedic Surgery, and Chief of the Hand and Upper Extremities Division in Plastic Surgery. "Although we have theories, at this time we simply don't know why people with carpal tunnel syndrome are more likely to have migraines, and vice versa. A deeper understanding of how and why this connection exists may lead to earlier diagnosis or even the ability to implement preventive measures."

The findings suggest it may be worthwhile for physicians to perform peripheral [nerve compression](#) exams in the head and neck on patients with migraines, the researchers concluded.

Further studies are needed to determine whether migraines may be an early indicator for future nerve compression problems such as carpal tunnel syndrome, the researchers said, as well as whether there is a hereditary component to the diseases. Because migraines are more common in younger patients, and carpal tunnel syndrome is more prevalent in older patients, it could be that migraines sensitize the central

nervous system to develop pain signals from later nerve compressions, according to the study.

The findings appear in *Plastic and Reconstruction Surgery* and have a 95 percent confidence level after controlling for known demographic and health-related factors, according to the analysis. The study was based on a review of 25,880 cases from the 2010 National Health Interview Survey, of which 952 (3.7 percent) had carpal tunnel syndrome and 4,212 (16.3 percent) had migraine headache. The National Health Interview Survey is based on health data collected by the U.S. Census Bureau.

The idea for the study to determine whether the connection existed evolved from evidence that use of botulinum toxin and/or nerve decompression surgery can help alleviate migraines. UT Southwestern plastic surgeons helped pioneer the use of botulinum toxin and nerve surgeries for migraines that do not respond to more traditional treatments

Migraines are not traditionally considered nerve compression issues, the researchers noted, but recent evidence shows migraine headaches may be triggered by nerve compression in the head and neck. This evidence is supported by the ability of nerve decompression surgeries to relieve the condition.

Both carpal tunnel syndrome and migraines are common, affecting up to 6 percent and 15 percent of adults, respectively, according to the study authors.

Carpal [tunnel syndrome](#), the most common type of nerve compression disorders called compression neuropathies, causes weakness or pain in the hands or wrists. It is more common in women and in ages 45 to 60, affecting an estimated one to three cases per 1,000 people in the U.S.,

and costing an estimated \$2 billion.

Migraine headaches, characterized by intense headache, vision problems and light sensitivity, and sometimes nausea and vomiting, are three times more common in women than in men, affecting more than 10 percent of people worldwide, according to the National Institute of Neurological Disorders and Stroke, part of the National Institutes of Health. Migraine ranks in the top 20 of the world's most disabling medical illnesses, according to the Migraine Research Foundation, which estimates nearly one in four U.S. households includes someone with migraine (about 36 million Americans), including about 18 percent of women and 6 percent of men. The study estimates migraines cause 112 million bedridden days per year and generate annual costs totaling up to \$17 billion in the United States.

Provided by UT Southwestern Medical Center

Citation: Plastic surgeons identify link between migraines and carpal tunnel syndrome (2015, April 27) retrieved 4 January 2024 from <https://medicalxpress.com/news/2015-04-plastic-surgeons-link-migraines-carpal.html>

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