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# **Migraines tied to increased stroke risk after surgery**

By [Lisa Rapaport](http://uk.reuters.com/journalists/lisa-rapaport)

(Reuters Health) - People with a history of migraines may be more likely to have a stroke after surgery than patients who don’t get these severe headaches, a recent study suggests.

While stroke was rare in the study, the odds of stroke within 30 days of surgery were 75 percent higher for people with a history of migraines.

When patients had a history of migraines with aura – or visual symptoms such as flashing or shimmering lights, zigzagging lines or stars – the odds of stroke were more than doubled.

“Our study shows that patients with migraine, particularly migraine with aura, undergoing a surgical procedure are at increased risk of perioperative ischemic stroke and readmission to hospital within 30 days after discharge,” said senior study author Dr. Matthias Eikermann of Harvard University and Massachusetts General Hospital in Boston.

Ischemic stroke, the most common type, results from an obstruction in a blood vessel supplying the brain. Many previous studies have linked migraine to an increased risk of stroke.

Up to one in five people get migraines, a chronic, often debilitating disorder characterized by severe headaches as well as symptoms like nausea and intense sensitivity to sight or sound, researchers note in The BMJ.

To assess how migraine history influenced the odds of stroke following surgery, researchers examined data on 124,588 patients who had operations requiring general anesthesia and mechanical ventilation from 2007 to 2014.

People with a history of migraines made up about 8 percent of the total cases. Of these 8,901 patients diagnosed with migraine, 1,278 had migraine with aura.

Overall, 771 people had a stroke within 30 days of surgery, or less than 1 percent of the study population. Most often, strokes occurred after vascular, heart or brain surgery.

Among all the patients who had a stroke, 89 of them, or about 12 percent, had a history of migraine with or without aura.

The absolute risk of stroke was about 2.4 cases for every 1,000 surgical patients, researchers estimated. For patients with a history of migraine, the risk increased to about 4.3 strokes for every 1,000 surgical patients.

In addition, researchers examined how often surgical patients were admitted to the hospital within 30 days of being sent home.

Altogether, 10,088 people had repeat hospital admissions.

Compared to patients without any history of migraines, the risk of repeat admissions was 59 percent higher for people with a history of migraine with aura and 27 percent greater for migraine without aura.

Researchers speculate that genetics may play a role, as well as characteristics of the brains of people with migraines that make them more susceptible to stroke.

“Patients with migraine have a hyperexcitable brain, which increases the vulnerability to stroke during and after surgery,” Eikermann said by email.

“When examining the electrical activity of the brain of patients with migraine, we observe a spreading depolarization which induces prolonged constriction of the blood vessels in the brain leading to decreased oxygen supply during migraine aura and stroke,” Eikermann added.

The study wasn’t a controlled experiment and it can’t prove that migraines cause increased stroke risk.

Another limitation of the study is that it relied on billing codes to identify people with migraines and lacked clinical information that might offer other explanations for an increased risk of stroke in some patients, the authors note.

Even so, the findings should prompt doctors to consider migraine history when they assess the risks of surgery and when they monitor patients for complications afterwards, said Dr. Samuel Wann, a researcher at Ascension Wisconsin Cardiovascular Physicians in Milwaukee who wasn’t involved in the study.

“This important study reminds us that migraine headaches, especially those associated with an aura, are not benign and can be associated with stroke,” Wann said by email.

SOURCE: [bit.ly/2jtWBaQ](http://bit.ly/2jtWBaQ) The BMJ, online January 10, 2017.