

Migraine drug commonly used in ER may not be best option

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Credit: Sasha Wolff/Wikipedia

A drug commonly used in hospital emergency rooms for people with migraine is substantially less effective than an alternate drug and should not be used as a first choice treatment, according to a study published in the October 18, 2017, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

"People go to U.S. emergency departments 1.2 million times a year with migraine, and the opioid drug hydromorphone is used in 25 percent of these visits, yet there have been no randomized, high-quality studies on its use for acute migraine," said study author Benjamin W. Friedman, MD, MS, of Albert Einstein College of Medicine in the Bronx, N.Y.

The study found that the drug prochlorperazine, given along with the drug diphenhydramine to prevent the side effect of restlessness, was

superior to hydromorphone. Prochlorperazine is a type of drug called a dopamine antagonist. It blocks the release of dopamine, which is one of the many chemical messengers in the brain. The drugs were all given intravenously.

The researchers were also looking at whether the use of an opioid drug led to addiction in some [people](#), with return visits to emergency rooms for repeat treatments.

"While this study demonstrates the overwhelming superiority of prochlorperazine over hydromorphone for initial treatment of [acute migraine](#), the results do not suggest that treatment with IV opioids leads to long-term addiction," Friedman said. "In addition, the results should not be used to avoid the use of opioids for people who have not responded well to anti-dopaminergic drugs."

The study involved 127 people who went to two emergency departments in New York with migraine. Half of the participants received hydromorphone and half received prochlorperazine. The researchers were looking to see how many people had sustained headache relief after 48 hours, which was defined as having a mild headache or no headache two hours after receiving the drug and maintaining that level for 48 hours without needing a rescue medication to stop the migraine.

The study was stopped after 127 people had enrolled because the 48-hour results showed that prochlorperazine was overwhelmingly superior to hydromorphone.

After 48 hours, 37 of the 62 people, or 60 percent, receiving prochlorperazine had sustained headache relief, compared to 20 of the 64 people who received hydromorphone, or 31 percent. In the emergency room, 31 percent of those who received hydromorphone asked for a second dose of the [drug](#), compared to 8 percent of those who received

prochlorperazine. Of those receiving [hydromorphone](#), 36 percent requested other pain-reliever drugs, compared to 6 percent of the other group.

There was no difference between the two groups in how often they returned to the ER for [migraine](#) within one month of the treatment.

Friedman said that one limitation of the study is that participants were required to have not used opioids during the previous month and to have no history of addiction to prescription or illicit opioids, so the participants may have been at lower risk for problems with [opioid](#) use than the general population.

Provided by American Academy of Neurology

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