Tips from Other Journals

Tips from Other Journals are written by the medical editors of *American Family Physician.*

The trade names of drugs listed in Tips from Other Journals are based on what is currently available and not necessarily the brand of drug that was used in the study being discussed.

Is High-Flow Oxygen Effective for Treatment of Cluster Headaches?

Background: Cluster headaches, defined as attacks of pain in the eye, periorbital region, and temple, can be effectively treated with triptans, particularly injectable sumatriptan (Imitrex). However, triptans, in addition to having restrictions on daily use, are contraindicated in patients with vascular risks such as ischemic heart disease. High-flow oxygen is a well-tolerated alternative treatment, but its effectiveness for cluster headaches has been explored only in a small controlled study of 15 patients. The lack of a good-quality controlled trial may limit its use in the real world. Cohen and colleagues studied the effect of high-flow oxygen as a treatment for acute cluster headaches.

The Study: The authors conducted a crossover study among 109 patients with cluster headaches. Patients were given two cylinders, one containing 100 percent oxygen (labeled "treatment 1") and the other containing air (labeled "treatment 2"). When a cluster headache occurred, they inhaled gas from the treatment 1 cylinder at 12 L per minute for 15 minutes using a nonrebreathing face mask, and alternated the cylinders for subsequent attacks. A rescue medication could be used if they experienced no relief after 15 minutes. Patients were excluded if they had previously been treated with oxygen for headaches, were pregnant, or had chronic migraines or chronic obstructive pulmonary disease. The primary end point was complete or adequate pain control at 15 minutes.

Results: Complete pain relief was achieved in 15 minutes in 78 percent of cluster headache attacks treated with high-flow oxygen, compared with 20 percent of those treated with air. Results were similar regardless of whether the cluster headaches were chronic or episodic. Fewer patients needed rescue medications after using oxygen than after using air (28 versus 53 percent, respectively). No serious adverse events were noted with either treatment.

Conclusion: The authors conclude that the use of high-flow oxygen for cluster headaches substantially reduces or eliminates pain within 15 minutes. This study confirms earlier recommendations for the use of high-flow oxygen in cluster headaches, and offers an evidence-based alternative for patients who cannot use triptan agents.

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Source: Cohen AS, et al. High-flow oxygen for treatment of cluster headache: a randomized trial. *JAMA*. December 9, 2009;302(22):2451-2457.

EDITOR'S NOTE: In this study, the proportion of patients successfully treated with oxygen (78 percent) is comparable with that in a previous study[1] using 6 mg of injectable sumatriptan (74 percent of patients improved within 15 minutes). Oxygen, injectable sumatriptan, and nasal triptans are effective for the treatment of cluster headaches, according to guidelines from the European Federation of Neurological Societies.[2] However, if oxygen is unavailable and triptans cannot be used, physicians should consider using intranasal lidocaine (Xylocaine), which blocks the nerve cluster in the sphenopalatine region. It relieves cluster headache in at least one third of patients, making it comparable with oral zolmitriptan (Zomig).[2] With the patient in a supine position and the head reclined 45 percent and rotated 30 to 40 degrees to the affected side, 1 mL of 4% to 10% lidocaine should be slowly injected intranasally on the side ipsilateral to the pain. I recently used this in a patient with episodic cluster headache who had maximized her triptan use, with immediate improvement in her symptoms.—K.T.M.

REFERENCES

1. Ekbom K, Waldenlind E, Levi R, et al. Treatment of acute cluster headache with sumatriptan. The Sumatriptan Cluster Headache Study Group. *N Engl J Med.* 1991;325(5):322-326.
2. May A, Leone M, Áfra J, et al. EFNS guidelines on the treatment of cluster headache and other trigeminal-autonomic cephalagias. *Eur J Neurol.* 2006;13(10):1066-1077. ■