

Treating cluster headaches with high-flow oxygen appears effective

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Patients with a cluster headache, which is characterized by bouts of excruciating pain usually near the eye or temple, were more likely to report being pain-free within 15 minutes of treatment with high-flow oxygen than patients who received a placebo treatment, according to a study in the December 9 issue of *JAMA*.

Cluster headache attacks typically last for 15 minutes to 3 hours untreated and have a frequency of 1 every other day for up to 8 attacks a day. Attacks usually occur in bouts, or clusters, lasting for weeks or months, separated by remissions lasting months or years, according to background information in the article. The current treatment for acute attacks of cluster headache is injection with the drug sumatriptan, but frequent dosing is not recommended because of adverse effects. Another treatment option is the inhalation of high-dose, high-flow oxygen, but its use may be limited because of the lack of a good quality controlled trial.

Anna S. Cohen, Ph.D., M.R.C.P., of the National Hospital for [Neurology](#) and Neurosurgery, London, and colleagues conducted a randomized, placebo-controlled trial of high-flow oxygen for the treatment of acute attacks of cluster headache. The study included 109 adults (ages 18-70 years). Patients treated four cluster headache episodes alternately with high-flow oxygen (inhaled oxygen at 100 percent, 12 L/min, delivered by [face mask](#), for 15 minutes at the start of an attack) or placebo (high-flow air). Patients were recruited and followed up between 2002 and 2007. The final analysis included 57 patients with episodic cluster headache and 19 with chronic cluster headache.

The researchers found that 78 percent of the patients who received oxygen reported being pain-free or to have adequate relief within 15 minutes of treatment, compared to 20 percent of patients who received air. For other outcomes, such as being pain-free at 30 minutes or a reduction in pain up to 60 minutes, treatment with oxygen was superior to air. There were no serious adverse events related to the treatments.

"To our knowledge, this is the first adequately powered trial of high-flow oxygen compared with [placebo](#), and it confirms clinical experience and current guidelines that inhaled oxygen can be used as an acute attack therapy for episodic and chronic cluster headache," the authors write.

"This work paves the way for further studies to optimize the administration of [oxygen](#) and its more widespread use as an acute attack treatment in cluster headache, offering an evidence-based alternative to those who cannot take triptan agents."

More information: *JAMA*. 2009;302[22]:2451-2457

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