



Drug Monitor

Hydromorphone vs. Morphine for Older Adults

Morphine, the first-line parenteral opioid used to treat severe pain, does not always relieve pain adequately and can cause intolerable adverse effects. In addition, research has suggested that the opioid hydromorphone, when compared with morphine in equivalent doses, causes greater relief and less pruritus in younger patients. So which of the drugs is better for patients aged 65 years and older who present to the emergency department (ED) with acute, severe pain?

To find out, researchers from Montefiore Medical Center, Bronx, NY performed a prospective, randomized, double-blind trial that compared the drugs' effects on 183 patients with a mean age of 75 years. Of these patients, 93 received a dose of 0.0075 mg/kg IV hydromorphone and 90 received an equivalent dose of 0.05 mg/kg IV morphine. The patients were asked to rate their pain—using a numerical rating scale (NRS) that defined 0 as “no pain” and 10 as the “worst pain possible”—at baseline, 10 minutes, 30 minutes, and two hours. The study's primary outcome measure was a comparison between the patient groups with regard to reductions in pain from baseline to 30 minutes.

The results, the researchers say, indicate that the drugs had similar results with regard to both efficacy and safety. At 30 minutes, the patients' mean reductions in pain were 3.8 NRS in the hydromorphone group and 3.3 NRS in the morphine group—a 0.5 NRS difference that fell below the level of clinical or statistical significance. When the researchers adjusted for such variables as age, weight, analgesics taken at home, and pain location,

the difference shrank even further to 0.25 NRS. In addition, the groups showed no significant differences in pain reductions at 10 minutes or two hours, in adverse effects incidence, in administration of additional pain medication, or in patient satisfaction.

The researchers also found that the overall study population experienced “a largely unsatisfactory degree of analgesia.” Only 43% of patients in the hydromorphone group and 41% of patients in the morphine group experienced pain reductions of over 50% within 30 minutes of receiving medication. In addition, about one third of patients in both groups reported only fair or poor satisfaction with the pain medicine, and about one third reported slight or no pain relief within 30 minutes.

Overall, the researchers say, their results suggest that “hydromorphone is a viable alternative to morphine for the treatment of acute, severe pain in older ED patients.” They add, however, that such patients may require higher initial doses of opioids or more frequent administration by titration than they generally receive at present.

Source: *Am J Geriatr Pharmacother.* 2009;7(1):1–10. doi:10.1016/j.amjopharm.2009.02.002.

Combination Therapy for BP Reduction

Combining blood pressure (BP)-lowering drugs from two different classes has about five times the effect of doubling the dose of one BP-lowering drug, say researchers from Wolfson Institute of Preventive Medicine at Barts and The London Queen Mary's School of Medicine and Dentistry, London, United Kingdom.

They reached this conclusion through a meta-analysis of 42 randomized, placebo-controlled trials that compared the results of using two BP-lowering drugs from different classes to the results of using each drug alone. Each trial involved drugs from at least two of the four main BP-lowering drug classes: thiazides, beta-blockers, angiotensin-converting enzyme inhibitors, and calcium channel blockers. The trials had a combined population of 10,968 participants.

The meta-analysis indicated that, while a double dose of a BP-lowering drug reduced BP by about 6 mm Hg (or 1 mm Hg more than a single dose), a combination of drugs from different classes reduced BP by about 9 mm Hg (or 5 mm Hg more than a single dose). Thus, the researchers say, combination therapy can prevent four coronary heart disease events or strokes for every one event prevented by a double dose. They add that combination therapy involving half-standard doses of different drugs can help to reduce adverse effects, which often are related to drug dosage.

The researchers conclude that while monotherapy or stepped-care is the usual initial approach to treating most patients with hypertension, their results “leave little doubt” that this approach should be replaced with combination therapy. ●

Source: *Am J Med.* 2009;122(3):290–300. doi:10.1016/j.amjmed.2008.09.038.

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