POEMs

Epley Maneuver Effective in the Long Term for Positional Vertigo

Clinical Question

Is the Epley maneuver effective for the long-term control of symptoms in patients with benign paroxysmal positional vertigo?

Bottom Line

How often do patients walk into our offices with a problem and walk out cured? The Epley maneuver, which is not particularly difficult to do, results in the long-term (at least one year) resolution of posterior canal benign paroxysmal positional vertigo. A video of the maneuver can be found at http://tinyurl.com/epleyman. (Level of Evidence = 1b)

Synopsis

These investigators enrolled 44 patients with posterior benign paroxysmal positional vertigo for at least one month confirmed by the Dix-Hallpike test. The patients were randomly assigned (concealed allocation unknown) to receive the Epley maneuver without premedication or a sham procedure of moving the head around. The Dix-Hallpike test was repeated and the maneuver (sham or Epley) was repeated up to two more times if the test result was still positive. Patients were asked to sleep semi-upright and to avoid sleeping on the affected side for the next two nights. Patients were retested at one, three, six, and 12 months, at which time they also completed the Dizziness Handicap Inventory. In the Epley maneuver group, 20 of 22 patients (91%) had long-term success (defined as a negative Dix-Hallpike result and a Dizziness Handicap Inventory score of 0) compared with 10 of 22 patients (46%) in the sham treatment group ($P = .003$). No patients converted to horizontal canal benign paroxysmal positional vertigo.

Study design: Randomized controlled trial (double-blinded)

Funding source: Self-funded or unfunded

Allocation: Uncertain

Setting: Outpatient (specialty)

Reference: *Bruintjes TD, Companjen J, van der Zaag-Loonen HJ, van Benthem PP. A randomised sham-controlled trial to assess the long-term effect of the Epley manoeuvre for treatment of posterior canal benign paroxysmal positional vertigo.* Clin Otolaryngol. *2014;39(1):39-44.*

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Niacin Does Not Improve Clinical Outcomes in Patients with Vascular Disease

Clinical Question

Does niacin plus laropiprant improve cardiovascular outcomes or reduce mortality in patients with vascular disease?

Bottom Line

This large, adequately powered trial did not find any clinically meaningful benefit to the use of niacin in patients who are already taking a statin, even with several study design features that should bias the result in favor of niacin. Niacin should not be prescribed to reduce the risk of cardiovascular events, even in high-risk patients and in patients with known vascular disease. The combination of niacin and laropiprant, marketed as Tredaptive in the United States, has been removed from the market after the preliminary results of this study showed no benefit. (Level of Evidence = 1b)

Synopsis

Although niacin is widely used for its effects on high-density lipoprotein (HDL) cholesterol—and, to a lesser extent, low-density lipoprotein (LDL) cholesterol—its benefit has never been proved in clinical trials. The recent AIM-HIGH trial in patients with metabolic syndrome found no benefit, and the current study was intended to evaluate niacin in patients with known vascular disease. The researchers recruited patients 50 to 80 years of age with a history of myocardial infarction, cerebrovascular disease, peripheral arterial disease, or diabetes mellitus with symptomatic coronary heart disease. Lipid levels were not part of the inclusion criteria, although patients receiving high-intensity statin therapy were excluded. During an initial run-in period, all patients received simvastatin (Zocor; 40 mg) once daily, and if their total cholesterol level remained higher than 135 mg per dL (3.50 mmol per L), ezetimibe (Zetia; 10 mg) was added. They were then given a single tablet with niacin (1 g) plus laropiprant (20 mg) once daily for four weeks, and then twice daily (laropiprant is added to reduce flushing).

Of the 51,698 patients who were initially screened, approximately one in nine withdrew during the simvastatin run-in period, and another one-third withdrew during the niacin run-in period (primarily because of adverse drug effects). This design would tend to select patients who tolerate the study medications, introduces a bias in favor of finding an effect, and also risks unmasking patients to their treatment assignment if they had mild but noticeable adverse effects while taking the drug, which then went away when taking placebo.

The final study population consisted of 25,673 patients; 83% were men, 57% were recruited in England or Scandinavia (the rest in China), and the average age was 65 years. The mean LDL level was 64 mg per dL (1.66 mmol per L) and the mean HDL level was 44 mg per dL (1.14 mmol per L). Groups were balanced at the start of the study, and analysis was by intention to treat. Patients were randomized to receive the active drug or a placebo and were observed for a median of 3.9 years. The drug successfully lowered LDL levels by 10 mg per dL (0.25 mmol per L) and raised HDL levels by 6 mg per dL (0.16 mmol per L) more than the placebo. However, there was no significant effect on major vascular events, major coronary events, stroke, cardiovascular mortality, or all-cause mortality. There was a borderline significant reduction in the likelihood of requiring revascularization (an outcome that might be affected by failure to mask) and a significant increase in the likelihood of new-onset diabetes (5.7% vs. 4.3%; number needed to treat to harm = 71) and in disturbed diabetes control (11.1% vs. 7.5%; number needed to treat to harm = 28). An increase in all-cause mortality occurred with the active drug, but it was not statistically significant (6.2% vs. 5.7%; $P = .08$).

Study design: Randomized controlled trial (double-blinded)

Funding source: Industry

Allocation: Uncertain

Setting: Population-based

Reference: *Landray MJ, Haynes R, Hopewell JC, et al.; HPS2-THRIVE Collaborative Group. Effects of extended-release niacin with laropiprant in high-risk patients.* N Engl J Med. *2014;371(3):203-212.*

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Net Benefit with Azithromycin Use in Older Hospitalized Patients with Pneumonia

Clinical Question

Is the use of azithromycin (Zithromax) for older patients hospitalized with pneumonia associated with increased mortality or an increased risk of cardiovascular events?

Bottom Line

For older patients hospitalized with pneumonia, the use of combination antibiotic therapy including azithromycin is associated with decreased mortality but an increased risk of myocardial infarction (MI). You would need to treat 21 patients with azithromycin to prevent one death within 90 days; you would need to treat 144 patients to cause one MI. This results in a net benefit of seven deaths prevented for one nonfatal MI induced with the use of azithromycin. (Level of Evidence = 2b)

Synopsis

Using data from the Veterans Administration health care system, these authors examined the association of azithromycin with death and cardiovascular outcomes in older patients who were hospitalized with pneumonia. Patients included in the study were at least 65 years of age who received antibiotic therapy per guidelines from the Infectious Diseases Society of America and the American Thoracic Society for the treatment of community-acquired pneumonia. Primary outcomes were death at 30 days and at 90 days, as well as cardiovascular events within 90 days. The cohort was divided into those who received combination therapy (which included azithromycin) and those who received other guideline-concordant antibiotics.

Subsequently, propensity scores were used to match patients based on potential confounders—such as age,

intensive care unit admission, and history of cardiac disease—that could affect the severity of illness or outcomes. Almost 64,000 patients were included in the propensity-matched analysis. Patients had a mean age of 78 years, 16% were admitted to the intensive care unit, and 5% received invasive mechanical ventilation. In this cohort, 90-day mortality was lower for azithromycin users (17% vs. 22%; odds ratio [OR] = 0.76; 95% confidence interval [CI], 0.73 to 0.80). Although azithromycin users had more MIs (5.1% vs. 4.4%; OR = 1.17; 95% CI, 1.08 to 1.25), there were no statistically significant differences in overall cardiac events, cardiac arrhythmias, or heart failure.

Study design: Cohort (retrospective)

Funding source: Government

Allocation: Uncertain

Setting: Inpatient (any location)

Reference: *Mortensen EM, Halm EA, Pugh MJ, et al. Association of azithromycin with mortality and cardiovascular events among older patients hospitalized with pneumonia.* JAMA. *2014;311(21):2199-2208.*

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Omega-3 Fatty Acid Supplementation Does Not Decrease CVD-Related Outcomes

Clinical Question

In older patients with macular degeneration, does omega-3 fatty acid supplementation decrease the likelihood of experiencing a cardiovascular outcome?

Bottom Line

Omega-3 fatty acid supplementation does not decrease the risk of cardiovascular outcomes in this older population. Although the numbers are small, supplementation may prevent heart disease in patients already at low risk; that is, patients without a history of cardiovascular disease (CVD) and who are not hypertensive. (Level of Evidence = 1b)

Synopsis

This study is a separate analysis of a study aimed at determining the effect of omega-3 fatty acids and macular xanthophylls (lutein and zeaxanthin) on the progression of age-related macular degeneration in patients between 50 and 85 years of age (average age = 74 years) who have intermediate or advanced age-related macular degeneration. Most patients (greater than 95%) were white, approximately 50% were current or former smokers, 13% had diabetes mellitus, and 19% had a history of CVD or cerebrovascular disease with no episodes in the 12 months before enrollment. After a 30-day trial with placebo to weed out nonadherent or second-thought patients, the 4,203 patients were randomized to receive (1) omega-3 fatty acids, (2) macular xanthophylls, (3) both, or (4) matching placebo for an average of 4.8 years. The fatty acids were docosahexaenoic acid (DHA), 350 mg, and eicosapentaenoic acid (EPA), 650 mg.

Using intention-to-treat analysis, the combined outcome of cardiovascular-related events (mortality and morbidity events) was not different among the patients receiving the fatty acids compared with patients not receiving them. This study had the ability to find a 25% reduction in these events if this difference occurred (at 80% power). Treatment with macular xanthophylls similarly did not affect cardiovascular outcomes. There was a reduction in cardiovascular-related events in patients without a history of CVD and in those without hypertension.

Study design: Randomized controlled trial (double-blinded)

Funding source: Government

Allocation: Uncertain

Setting: Outpatient (specialty)

Reference: *Bonds DE, Harrington M, Worrall BB, et al.; Writing Group for the AREDS2 Research Group. Effect of long-chain ω-3 fatty acids and lutein + zeaxanthin supplements on cardiovascular outcomes: results of the Age-Related Eye Disease Study 2 (AREDS2) randomized clinical trial.* JAMA Intern Med. *2014;174(5):763-771.*

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