

Are beta-blockers effective for treatment of neuromediated (vasovagal) syncope?

Evidence-Based Answer

Metoprolol is no more effective than placebo in reducing neuromediated (vasovagal) syncope. (SOR **B**, based on a single high-quality study.) Studies of propranolol are of low quality and conflict. Atenolol has not been studied.

Vasovagal syncope is a common disorder of autonomic cardiovascular regulation that can be disabling and result in psychosocial and physical limitations. Beta-blockers have been reported in nonrandomized trials to prevent syncope.¹

In 2002, a randomized controlled trial of beta-blockers for the treatment of recurrent syncope was performed. This trial looked at 56 patients with recurrent syncope: 14 were given metoprolol, 14 were given propranolol, and 28 were given no medical therapy. In the 12-month follow-up, 28.6% (8/28 patients) in the beta-blocker groups had a syncopal event compared with 71.4% (20/28) in the control group ($P<.004$).² A significant flaw of this study was that a placebo pill was not given.

In 2006, a 6-month prospective, randomized, placebo-controlled study was undertaken evaluating 3 groups with vasovagal syncope: 32 patients were given 20 mg fluoxetine daily, 32 patients were given 10 to 40 mg propranolol TID, and 32 patients were given a placebo. The hazard ratio (HR) for repeat syncope compared with placebo did not reach statistical significance with either medication. HR was reported as 0.39 for the fluoxetine group (95% confidence interval [CI], 0.94–1.64; $P=.20$; the discrepancy between HR and the 95% CI was present in the original article) and 0.91 for the propranolol group (95% CI, 0.26–3.16; $P=.88$).³

The largest study conducted to evaluate the efficacy of beta-blocker therapy for vasovagal syncope was the multicenter Prevention of Syncope Trial (POST).⁴ This trial was a randomized, placebo-controlled, double-blind trial designed to assess the effects of metoprolol versus placebo in vasovagal syncope over a 1-year treatment period on 208 patients. Patients were stratified according to age (<42 or ≥ 42 years) and randomized separately within each center in blocks of 4. They were allocated randomly and equally in a double-blind-

ed fashion to receive metoprolol or a matching placebo from coded, numbered containers. The study coordinators started dosing with 50 mg of study drug twice daily with the intent to increase to 100 mg twice daily after 3 to 5 days if the pill was tolerated.

In the on-treatment analysis, the HR for patients taking metoprolol compared with those taking placebo was 0.94 (95% CI, 0.60–1.49; $P=.80$) in the nonstratified analysis and 1.00 (95% CI, 0.62–1.62; $P=.99$) in the stratified analysis.³

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Are oral or topical antibiotics more effective in children with chronic draining ear?

Evidence-Based Answer

Topical antibiotics speed healing in chronic suppurative otitis media (CSOM) and chronic draining ear and are more effective than systemic antibiotics. (SOR **B**, based on systematic reviews with heterogeneous outcomes.)

CSOM refers to middle ear infections present for >6 months. Although this condition is clinically associated with chronic drainage, the literature varies on a specific definition.

A 2005 Cochrane review on the treatment of chronic draining ear in children aged 0 to 15 years identified 14 trials with 1,724 patients.¹ In 2 studies of 197 patients, topical quinolone antibiotics were more effective at resolving otorrhea at 1 week than placebo (relative risk [RR]=0.45; 95% confidence interval [CI], 0.34–0.59). No difference was noted between topical quinolone antibiotics and topical non-quinolone antibiotics at weeks 1 or 3 (at 1 week, RR=0.89, 95% CI, 0.59–1.32, including 3 studies, 402 patients;