POEMs

POEMs (patient-oriented evidence that matters) are provided by Essential Evidence Plus, a point-of-care clinical decision support system published by Wiley-Blackwell. For more information, please see http://www.essentialevidenceplus.com.

For definitions of levels of evidence used in POEMs, see http://www.essentialevidenceplus.com/product/ebm_loe.cfm?show=oxford.

EDITOR'S NOTE: In this issue, we resume publication of POEMs, patient-oriented evidence that matters. Many of you are already familiar with these short synopses of published research, or may remember our previous coverage of them from March 2003 through December 2006.[1] Each month, a team—four family physicians, a clinical pharmacologist, and a hospitalist—scans more than 100 clinical journals looking for research articles that meet high standards for validity, relevance, and the potential to change practice. The team members select reports that involve outcomes that matter to patients, such as morbidity, mortality, quality of life, or cost. POEMs are peer reviewed by the academic fellowship faculty and fellows of the University of Missouri's Department of Family & Community Medicine. We think that POEMs will help busy physicians save time by highlighting studies that are most helpful to their practices.

Our POEMs series will be overseen by *AFP*'s Deputy Editor for Evidence-Based Medicine, Dr. Mark Ebell, assisted by Associate Medical Editor Dr. Sumi Sexton. Dr. Ebell is a cofounder of POEMs, which is now part of Essential Evidence Plus, published by Wiley-Blackwell. Dr. Ebell also serves as editor-in-chief of Essential Evidence Plus.

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Editor, *American Family Physician*

REFERENCE

1. Shaughnessy AF, Siwek J. Introducing POEMs. *Am Fam Physician.* 2003;67(6):1196-1199.

Hyaluronic Acid Ineffective for Knee Osteoarthritis

Clinical Question

Is viscosupplementation with hyaluronic acid injection effective in decreasing pain in patients with knee osteoarthritis?

Bottom Line

Hyaluronic acid injection does not improve pain in patients with knee osteoarthritis but may result in serious adverse effects. (Level of Evidence = 1a–)

Reference

Rutjes AW, Jüni P, da Costa BR, Trelle S, Nüesch E, Reichenbach S. Viscosupplementation for osteoarthritis of the knee: a systematic review and meta-analysis. Ann Intern Med. *2012;157(3):180-191.*

Study design: Meta-analysis (randomized controlled trials)

Funding source: Foundation

Setting: Various (meta-analysis)

Synopsis

Hyaluronic acid is a naturally occurring substance that acts as a lubricant and shock absorber. Various injectable products are available—Synvisc, Orthovisc, Hyalgan, and others—for intra-articular treatment of knee pain caused by osteoarthritis. This systematic review, the latest of many trying to determine whether these products work, incorporated searches of several databases, including the Cochrane Register of Controlled Trials. The reviewers also searched conference proceedings and clinical trial registries to find unpublished data (which are more likely to have found no benefit compared with published research). Two authors independently evaluated the research for eligibility and extracted the data. They included randomized trials published in any language that evaluated any hyaluronic acid product against sham therapy or no treatment. The 89 studies, with a total of 12,667 patients, were evaluated for quality, which was generally low. This meta-analysis shows the importance of good systematic review technique, because there was significant heterogeneity among the studies and evidence of publication bias. The authors' analysis found that the lower the study quality, the larger the benefit. They also identified five unpublished studies, representing approximately 10 percent of the total number of patients, that found no benefit. In 18 large studies of high quality, hyaluronic acid produced no clinically relevant effect on knee pain (effect size = −0.11;

95% confidence interval, −0.18 to −0.04). Fourteen studies found that treatment increased the risk of serious adverse effects (relative risk = 1.41; 95% confidence interval, 1.02 to 1.97).

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Physician-, Biomarker-, and Symptom-Based Adjustment of Inhaled Steroids All Similar for Adult Asthma Control

Clinical Question

Which strategy is superior in managing inhaled steroid therapy in adults with asthma: symptom-based, biomarker-based, or physician-based?

Bottom Line

In this study, symptom-based dose adjustment of inhaled steroids (instructing patients to take two puffs of inhaled steroids every time they took two puffs of albuterol for relief of symptoms) resulted in similar treatment outcomes compared with a dosing strategy based on physician assessment using widely distributed and highly touted standard national guidelines, and compared with a biomarker-based strategy using exhaled nitric oxide. In addition, the symptom-based therapy resulted in only approximately one-half the amount of total monthly steroid use. It will likely require more confirming clinical trials before standard treatment consists of allowing patients to adjust inhaled corticosteroid use to match their need for rescue albuterol—even though this strategy is simple and doesn't require a highly trained clinician's input! (Level of Evidence = 1b−)

Reference

Calhoun WJ, Ameredes BT, King TS, et al.; Asthma Clinical Research Network of the National Heart, Lung, and Blood Institute. Comparison of physician-, biomarker-, and symptom-based strategies for adjustment of inhaled corticosteroid therapy in adults with asthma: the BASALT randomized controlled trial. JAMA. *2012;308(10):987-997.*

Study design: Randomized controlled trial (nonblinded)

Funding source: Government

Allocation: Uncertain

Setting: Outpatient (any)

Synopsis

The optimal strategy for adjusting inhaled steroid therapy in adults with asthma is uncertain. These investigators identified 342 consenting adults with well-controlled or partially controlled asthma with or without low-dose inhaled steroids. Patients randomly received assignment (uncertain allocation concealment) to one of three treatment-management groups: (1) physician assessment based on widely distributed guidelines from the National Heart, Lung, and Blood Institute National Asthma Expert Panel; (2) measurement of exhaled nitric oxide; or (3) symptom-based, in which inhaled steroid dose is matched on a puff-per-puff basis with as-needed albuterol use. Dose adjustments occurred at clinic visits every six weeks in the first two strategies and as needed by patients in the third strategy. Primary outcomes included unscheduled medical contact for increased asthma symptoms resulting in the use of oral steroids, increased inhaled steroids, or additional medications for asthma. Patients and their physicians remained aware of treatment group assignment. Complete follow-up occurred for 80 to 89 percent of participants at nine months. Using intention-to-treat analysis, time to treatment failure and treatment failure rates did not significantly differ among the three treatment strategies. Mean monthly steroid use was significantly higher in the physician-based and biomarker-based groups than in the symptom-based group (mean beclomethasone [Beconase AQ] use = 1,610 versus 830 mcg). The study was 87 percent powered to detect a predetermined clinically significant difference in treatment failure rate among the three strategies.

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