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Intranasal Corticosteroids for Acute Bacterial Rhinosinusitis

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Clinical Question

Do intranasal corticosteroids, with or without antibiotics, hasten the resolution of symptoms of acute bacterial rhinosinusitis?

Evidence-Based Answer

Compared with patients not treated with intranasal corticosteroids, those who receive them have greater improvement or resolution of symptoms at two to three weeks, regardless of whether antibiotics are used. In a single head-to-head study, patients taking intranasal corticosteroids alone fared slightly better than those taking antibiotics alone. Higher doses of intranasal corticosteroids work better than lower doses. (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

Practice Pointers

Although acute bacterial rhinosinusitis is usually self-limited, up to 98% of office visits for "sinusitis" lead to a prescription for an antibiotic. Yet, even when stricter criteria are used for making the diagnosis, antibiotics yield modest benefits.[1]

These authors evaluated the role of intranasal corticosteroids, with and without antibiotics, in the treatment of acute bacterial rhinosinusitis in children and adults. Intranasal corticosteroid agents used included fluticasone (Flonase), mometasone (Nasonex), and budesonide (Rhinocort). Four double-blind, placebo-controlled trials of almost 2,000 patients were reviewed, but only three of the trials were included in the meta-analysis because one study had methodologic flaws and a high drop-out rate. The primary outcome of symptom resolution or improvement was measured at 15 days in one study and at 21 days in the other studies.

In the study with the high drop-out rate, symptoms improved more rapidly with intranasal corticosteroids vs. placebo (approximately three to four days). Meta-analysis of the other three studies showed that patients using intranasal corticosteroids had a 73% chance of having symptom resolution or improvement vs. 66% of those using a placebo inhaler (relative risk = 1.11; 95% confidence interval, 1.04 to 1.18; number needed to treat [NNT] = 15). In one of the studies in which patients received high-dose mometasone (400 mcg), the NNT was 12.

Only one study compared intranasal corticosteroid monotherapy with antibiotic monotherapy. The intranasal corticosteroids–only group had a statistically significant improvement of 0.6 points on the 15-point mean symptom score when compared with the antibiotic-only group.

No major adverse effects were reported in the trials, and minor effects included epistaxis, headache, and nasal irritation.

The American Academy of Pediatrics updated its guidelines for management of acute bacterial rhinosinusitis in patients one to 18 years of age.[2] Although the guidelines state that a three-day observation period is permissible before treatment with amoxicillin, no comment is made on the use of intranasal corticosteroids. The Infectious Diseases Society of America recommends saline irrigation and/or intranasal corticosteroids, especially in refractory cases or in patients with a history of allergic symptoms.[3] Recommendations from the University of Michigan Health System state that intranasal corticosteroids are "likely to be effective."[4]

SOURCE: Zalmanovici Trestioreanu A, Yaphe J. Intranasal steroids for acute sinusitis. *Cochrane Database Syst Rev.* 2013;(12):CD005149.

The practice recommendations in this activity are available at http://summaries.cochrane.org/CD005149.

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Exercise Programs for Older Patients with Dementia

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Clinical Question

Do exercise programs for older patients with dementia improve cognition, activities of daily living, challenging behavior, depression, and mortality?

Evidence-Based Answer

There is some evidence that exercise improves cognitive function and the ability to perform activities of daily living in patients with dementia. (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

More than 5 million U.S. adults have dementia.[1] Because there may be an association between exercise and delay of cognitive decline, a primary interest of the study authors was to determine whether physical activity can improve cognition in patients with dementia.[2] This is an update of a 2008 Cochrane review that found insufficient evidence about the effect of exercise on cognition, function, behavior, depression, or mortality in adults with dementia.[3] Since then, several additional trials have been conducted.

This review included 16 trials with a total of 937 participants, and examined a variety of exercise programs varying in duration from two weeks to 12 months. Exercise was defined as "body movement that is produced by the contraction of skeletal muscles and that increases energy expenditure."[4] The trials used various combinations of aerobic, strength, and balance training. The control groups received usual care or were given non–exercise-related social activities.

Seven studies with a total of 308 participants measured the effect of exercise on improved cognition. Meta-analysis was performed and results favored the exercise program vs. the control program, but they were not statistically significant (standardized mean difference [SMD] = 0.31; 95% confidence interval [CI], –0.11 to 0.74).

Six studies with a total of 289 participants explored the effect of exercise on activities of daily living. Meta-analysis was performed and results were statistically significant in favor of the exercise program (SMD = 0.68; 95% CI, 0.08 to 1.27). Six studies that measured the effect of exercise on depression found no significant benefit. Four trials examined the effect of exercise on challenging behaviors, and the results were inconclusive. No trials evaluated mortality in patients with dementia, and no significant adverse effects were reported.

Two trials involving 40 participants who cared for patients with dementia evaluated the effect of exercise on caregiver burden. Although the number of participants was small, there was a statistically significant improvement in caregiver burden for those who participated in an exercise program as measured by the Screen for Caregiver Burden and the Zarit Burden Interview Scale (mean difference = –15.30; 95% CI, –24.73 to –5.87).

There is limited evidence that exercise improves cognitive function and performance of activities of daily living in persons with dementia. No adverse effects were noted in any study. Further, exercise programs seem to improve caregiver burden. Current guidelines for dementia recommend graded assistance, memory training, manual activities, and self-management therapy as nonpharmacologic treatments to improve cognitive performance and activities of daily living.[5] Other recommendations stress patient-centered care and patient preferences.[6] Family physicians may consider encouraging exercise as part of a treatment plan for persons with dementia.

SOURCE: Forbes D, Thiessen EJ, Blake CM, Forbes SC, Forbes S. Exercise programs for people with dementia. *Cochrane Database Syst Rev.* 2013;(12):CD006489.

The practice recommendations in this activity are available at http://summaries.cochrane.org/CD006489.

The views expressed in this article are those of the authors and do not reflect the policy or position of the U.S. Army Medical Department, Department of the Army, Department of Defense, or the U.S. government.

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