Impermeable bed covers for asthma and rhinitis: testing conventional wisdom

The increasing prevalence of allergic disease has prompted exploration of new therapies. In 2 similar, placebo-controlled, randomized trials, investigators tested whether dust-mite-impermeable bed covers improve health outcomes in patients with asthma or allergic rhinitis.

In a multicenter U.K. study, 1122 adults (age range, 18-50) with asthma were given either impermeable or permeable covers for their bedding. Despite significantly lower levels of dust-mite allergen in the mattress dust of the impermeable-cover group at 6 months (although not at 12 months), no differences were found between groups in the primary outcomes (peak expiratory flow rate at 6 months, cessation of inhaled corticosteroid treatment, or mean reduction in steroid dose). Analysis that was restricted to the 65% of patients with dust-mite allergy also found no between-group differences.

In a multicenter European trial, 232 children and adults (age range, 8-50; mean age, 26) with allergic rhinitis were assigned to use either impermeable or permeable bed covers. Once again, despite a significant reduction from baseline levels in dust-mite concentration in the bedding of the intervention group (at 12 months), no between-group differences were noted in severity of rhinitis, nasal-allergen provocation test scores, or daily symptom scores. No differences were found in analyses that were restricted to children or to patients with dust-mite allergy.

Comment

The results of these studies are disappointing. Many groups have promoted environmental control for allergic disorders. An editorialist points to 2 kinds of errors that can plague studies of environmental control for allergic disorders: Families assigned to the placebo group might institute other environmental changes that would be considered for every patient with allergic disorders but should be emphasized for those with moderate-to-severe disease. The limited inclusion of children does not invalidate the results of these well-executed studies.

Howard Bauchner, MD
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Montelukast reduces need for inhaled corticosteroids in asthma

Adding leukotriene receptor antagonists to asthma therapy introduces an additional anti-inflammatory drug class that may complement corticosteroids. Investigators performed this manufacturer-sponsored, randomized, placebo-controlled trial to determine if montelukast, a potent cysteinyl leukotriene receptor antagonist, reduced the need for inhaled steroids in patients with chronic asthma.

Investigators randomized 226 clinically stable asthma patients on high-dose inhaled steroids to receive either montelukast or placebo. Patients were enrolled from 23 asthma centers in the U.S., Canada, and Europe. During the next 12 weeks, steroid doses were adjusted according to predetermined criteria. By the end of the treatment period, the mean reduction in steroid doses was 47 percent for the montelukast group and 30 percent for the placebo group—a significant difference. Also, significantly more montelukast patients than placebo patients tapered off steroids completely (40 percent vs. 29 percent), and significantly fewer montelukast patients than placebo patients required increased steroid doses (16 percent vs. 30 percent). There was no difference between the two groups in the number of adverse events or in pulmonary function.

Comment

These data indicate that montelukast can occasionally replace inhaled steroids in the treatment of asthma. We don’t know yet if it is preferable to steroids.

KI Marton
Published in Journal Watch August 31, 1999

Celiac disease is prevalent, but isn’t diagnosed often

Celiac disease occurs in some genetically susceptible people (those with specific HLA haplotypes) when they are exposed to gluten-containing products, such as wheat or barley. In 2001, Finnish investigators retrospectively tested sera that had been obtained in 1994 from an unselected cohort of 3654 children (age range in 1994, 7 to 16 years) for endomysial and tissue transglutaminase antibodies; HLA typing also was done.

In 1994, no child in the cohort had been diagnosed with celiac disease; by 2001, 10 children had been diagnosed (confirmed by biopsy). Fifty-six sera were positive for one or both of the celiac-associated antibodies. Each antibody-positive subject who had not been diagnosed previously was offered small-bowel biopsy to confirm diagnosis of celiac disease. Of the 36 subjects who underwent biopsies in 2001, 27 had evidence of celiac disease. Thus, the prevalence of biopsy-proven disease was 1 in 99. All but 2 subjects with celiac disease had the celiac-associated HLA haplotypes.

Comment

In an accompanying article, an editorialist suggests that celiac disease fulfills the World Health Organization criteria for screening, although he notes that additional studies are necessary. Clinicians should consider testing children and young adults for celiac disease if unexplained weight loss, chronic diarrhea, or abdominal distention is present. Atypical manifestations of this disease include diabetes, anemia, chronic fatigue, and irritable bowel.

Howard Bauchner, MD
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Adolescent preventive services: where are the GAPS?

The availability of preventive-service guidelines for adolescents lagged behind the availability of well-child guidelines for younger children until the introduction of the Guidelines for Adolescent Preventive Services (GAPS) in 1994. GAPS became a welcome addition to the primary care physician’s repertoire of screening tools, but for nearly a decade the effectiveness of GAPS screening was unknown. These researchers audited the charts of 162 younger adolescents (age range, 11 to 15) and 279 older adolescents (age range, 16 to 19) who underwent annual examinations before and after GAPS screening was introduced in...
a large, rural, general pediatric practice between April 1998 and March 2001.

One or more risky behaviors were reported in 19% of the charts at baseline; this percentage increased to 95% in the first year after the introduction of GAPS. The most prevalent risk in this rural setting was having a rifle or gun in the home (younger adolescents, 47%; older adolescents, 39%). Fewer risky behaviors were reported in responses to the GAPS questionnaires than were reported in response to a local survey of youth behavior. Girls reported higher average numbers of risky behaviors (3.6 per patient) and health concerns (1.0) than did boys (2.9 and 0.5, respectively). The number of GAPS-related referrals by providers did not change significantly.

Comment ▶ In one rural setting, GAPS filled gaps in the identification of risky behaviors and encouraged patient-physician discussion of psychosocial issues but did not increase referrals for such behaviors. The dramatic increase in reported risks after adoption of GAPS recommendations in this practice is a testament to the creativity of these practitioners.

Elizabeth R. McAnarney, MD
Published in Journal Watch Pediatrics and Adolescent Medicine July 28, 2003

Cow’s milk allergy is different from lactose intolerance ▶ The incidence of cow’s milk allergy (CMA) seems to be increasing, and all lactose-containing products often are prohibited for children with CMA. But, do lactose-containing nonmilk products retain allergenic milk proteins? Or, is the usual ban on lactose for children who have CMA without justification? In a study of 24 children (age range, 2-107 months) with CMA, Italian investigators examined whether a standard lactose preparation induced allergic reactions.

In 13 children, CMA was diagnosed by histories of anaphylaxis and, in 11, it was diagnosed by double-blind, placebo-controlled food challenges. Twenty-three children had positive skin-prick tests to cow’s milk. No child was skin-prick-positive to lactose or to soy formula with lactose.

Comment ▶ Avoiding both cow’s milk and lactose in a child’s diet is a challenge. Although the number of participants in this study was small, the results suggest that clinicians do not have to counsel parents of children with CMA to avoid giving lactose-containing foods to their children as long as no dietary lactose intolerance is seen.

Howard Bauchner, MD
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Rapid influenza testing in the pediatric ER ▶ Rapid tests for influenza are becoming more accurate. To determine how they affect other aspects of patient management, investigators used rapid tests on 391 patients (age range, 2 months to 21 years) who presented to a pediatric ER in Alabama with fever and other flu-like symptoms of ≤72 hours’ duration. Subjects were randomized either to a group in which physicians received rapid test results before seeing patients (physician-aware group) or to a group in which physicians did not receive these results (physician-unaware group).

Among 202 patients whose rapid tests were positive, most other tests (e.g., urine cultures, chest x-rays) were performed significantly less often in the physician-aware group than in the physician-unaware group. For example, no complete blood counts or blood cultures were done in the physician-aware group, compared with 13 and 11 tests, respectively, in the physician-unaware group.

Influenza-positive patients in the physician-aware group incurred lower costs, were less likely to receive antibiotics, and were more likely to receive antiviral prescriptions than were patients in the physician-unaware group. The 241 youngest patients (2-36 months old) accounted for most of the differences between the physician-aware and -unaware groups. Test ordering, antibiotic prescribing, and charges in the influenza-positive/physician-unaware group were generally similar to those in both groups of influenza-negative patients.

Comment ▶ The findings of this simple – but important – study suggest that knowing the results of a rapid influenza test might reduce other testing at young, febrile children and might reduce costs and antibiotic prescribing.

Howard Bauchner, MD
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