Probiotics Fail to Cut Respiratory Infections

BY KERRI WACHTER

Probiotics do not appear to reduce the incidence of respiratory tract infections, though they may help reduce the severity and duration of these infections, based on a review of 14 published randomized clinical trials.

"The majority of RCTs [randomized clinical trials] included in this review indicate that the incidence of RTIs [respiratory tract infections] does not appear to be considerably influenced by prophylactic administration of probiotics, although probiotics may have a beneficial role in reducing the severity and duration of subsequent RTIs," wrote Dr. Evridiki K. Vouloumanou of the Alfa Institute of Biomedical Sciences, Athens, and colleagues.

The study appears in the September issue of the International Journal of Antimicrobial Agents (2009;34.e1-197e.10; [doi:10.1016/j.ijantimicag.2008.11.005]).

Ten of the 14 trials showed no difference in the incidence of RTIs between patients on probiotics and those on placebo. In four of the trials, the incidence of RTIs was significantly lower in those on probiotics.

The authors reviewed RCTs exploring the use of probiotics to prevent or ameliorate RTIs that they identified through a literature search. Databases included PubMed, Cochrane Central Register of Controlled Trials (CENTRAL), and SCOPUS. The researchers searched for available trials up to Feb. 5, 2008. They identified 14 studies with 3,580 participants that met their quality criteria (Jadad score greater than 2).

Upper RTIs in the studies included common cold, acute otitis media, tonsillitis/tonsillopharyngitis, sinusitis, and recurrent sinusitis. Lower RTIs included bronchitis and pneumonia. Probiotics used in the trials included *Lactobacillus* spp., a strain of *Bifidobacterium longum*, combinations of *Lactobacillus* and *Bifidobacterium* species, and a nonpathogenic strain of *Enterococcus faecalis*. Six of the trials involved healthy children or infants, six included healthy adults, one involved children with RTI, and one involved adults with RTI.

"A significant reduction regarding the severity of symptoms of RTIs associated with probiotic treatment was found in five of six RCTs that provided relevant data," they wrote. There was no difference in symptom severity in the remaining trial. In addition, three of nine RCTs reported a significant difference in favor of the probiotics groups. However, the other six showed no difference.

In six RCTs, no adverse events were noted that could be attributed to the probiotics. In three RCTs, adverse events of minor severity included nausea, bloating, and diarrhea. In one RCT the development of dyspepsia prompted reduction in the amount of probiotic daily intake. The authors said that they had no conflicts of interest. ■

Study: Oral Drugs Beat Inhaled Ones for Controlling Asthma

BY GREGORY TWACHTMAN
"The Pink Sheet"

The WellPoint health plan has lifted prior authorization requirements on oral asthma medications based on a comparative effectiveness analysis of claims data for oral and inhaled asthma medications.

Despite inhaled drugs' clinical superiority in controlled trials, the study, conducted by HealthCore (WellPoint's health outcomes research subsidiary), revealed that users of oral asthma controllers appeared to have better clinical outcomes than did the inhaled corticosteroid (ICS) group, as indicated by less use of short-acting beta-agonists and a smaller risk of inpatient and emergency department visits, according to the study authors.

The study came about, according to WellPoint's National Pharmacy and Therapeutics Committee, when it found that oral asthma medications were being used as front-line therapy, a use that either wasn't part of the drug's approved indication or didn't follow the National Heart, Lung, and Blood Institute's asthma treatment guidelines.

WellPoint said it was hearing anecdotal evidence that members did not like inhaled treatments or were struggling to take them, prompting the insurer to find out "which therapy was best for members in the real world and align our formulary appropriately."

For the study, HealthCore examined the medical and pharmacy claims of more than 55,000 patients from eight health plans who had used at least one of six types of asthma controller medications between 2003 and 2005.

The data were integrated with quality of life surveys of more than 800 asthma patients from the same plans to evaluate potential differences in quality of life between the types of controller medication. The oral medications that patients in the study were using were the leukotriene modifiers zafirlukast (Accolate), montelukast (Singulair), and zileuton (Zyflo).

'Only 3% of patients in the ICS monotherapy group were considered adherent, a finding that underlines the urgent need for a better understanding of the barriers to patient acceptance.'

Lead author Hiangkiat Tan and colleagues suggested that the reason for the better outcomes among the oral medication users compared with the ICS users comes down to real-world usage patterns.

"This conflict could be due to the observation that the patients in this study were less adherent to an inhaled controller medication (inhaled corticosteroid, long-acting beta-agonist) regimen than to an oral controller medication regimen," the authors suggested. "This observation concurred with the findings of other studies, which indicated that adherence was poor for inhaled medications, both in general and in comparison with oral medications" (Mayo Clin. Proc. 2009;84:675-84).

"Only 3% of patients in the ICS monotherapy group were considered adherent, a finding that underlines the urgent need for a better understanding of the barriers to patient acceptance of the most proven and effective therapy," the researchers added. "When ICS adherence cannot be achieved, our findings indicate that a [leukotriene modifier] may be a reasonable alternative, although at a higher cost."

The investigators noted that among patients who adhered to their controller medication regimen, the risk of inpatient or emergency department visits was lower for patients receiving an ICS than for those taking an oral medication.

But the findings underscore a common theme that has surfaced in broader discussions regarding comparative effectiveness research: How an intervention is used in the real-world setting can differ from its use in the clinical trials that are used to determine a drug's safety and efficacy, with different results. ■

This newspaper and "The Pink Sheet" are published by Elsevier.

Asthma Associated With Body Size, Abdominal Fat in Women

BY MARY ANN MOON

Adult-onset asthma was associated with several measures of large body size, particularly abdominal adiposity, in a large longitudinal study of women.

Even being modestly overweight at baseline increased the risk of developing asthma over time, said Julie Von Behren of the Northern California Cancer Center, Berkeley, and her associates.

Moreover, a large waist circumference, even among women of normal weight and body mass index (BMI), appeared to raise the risk for asthma.

Noting that "obesity has recently been identified as a risk factor for adult asthma, particularly in women," Ms. Von Behren and her colleagues examined the issue using data from the California Teachers Study, an ongoing assessment of women teachers and school administrators that began in 1995.

The 88,304 subjects included in the analysis were either actively employed by or retired from the state school system. Anthropomorphic factors were assessed at baseline and in 1997, whereas measures related to asthma were assessed in 2000.

The overall prevalence of obesity at baseline was 13%, and the overall prevalence of current asthma was 7.6%. The prevalence of asthma at baseline was 10.9% among women with class I obesity, 13.4% among women with class II obesity, and 18.3% among extremely obese women.

Compared with subjects of normal weight, those who were overweight had an odds ratio of 1.4 for asthma. The odds ratio rose steadily as weight increased, to 3.3 for women with class III obesity.

In addition to BMI, weight gain since the age of 18 years, waist:height ratio, and waist circumference also were strongly associated with the development of asthma. Waist circumference, which more closely reflects visceral fat than does BMI, showed a particularly strong and independent association with asthma: Even women of normal BMI who had a waist measurement greater than 88 cm had a higher rate of asthma than did women with smaller waists.

(A waist circumference of 88 cm is the National Institutes of Health's cutoff for increased risk for diabetes, hypertension, and cardiovascular disease.)

Overweight and obesity also were associated with asthma severity. Compared with women of normal weight, those who were overweight had an odds ratio for severe asthma of 1.31, those who were obese had an odds ratio of 1.32, and those who were extremely obese had an odds ratio of 2.00, the investigators said (Thorax 2009 [doi:10.1136/thx.2009.114579]).

There are several possible mechanisms by which excess weight or abdominal adiposity may cause or exacerbate asthma, the investigators noted. Obesity can affect airways via its effects on atopy, lymphocyte ratios, immune responsiveness, and systemic inflammation. It is also associated with gastroesophageal reflux, a risk factor for asthma.

The heightened effect of obesity on asthma among women, compared with men, suggests that estrogen and other hormones also may play a role, possibly through the modulation of cytokine production. The study was sponsored by the National Cancer Institute. No conflicts of interest were reported. ■