

Corticosteroids, Antihistamines No Use in AOM

BY ROBERT FINN
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SAN FRANCISCO — Although it may seem logical that corticosteroids, antihistamines, and/or decongestants may be good adjunctive treatments of acute otitis media, the evidence does not bear this out, Dr. Tasnee Chonmaitree said at the annual meeting of the Pediatric Academic Societies.

The rationale for using corticosteroids and antihistamines is clear: Drugs that can inhibit the synthesis or counteract the actions of inflammatory mediators should help improve the outcome—

The conclusion of one study was that antihistamines actually prolong middle ear effusion in patients with AOM and should not be used.

or at least provide some symptom relief—in acute otitis media (AOM), said Dr. Chonmaitree of the University of Texas, Galveston.

Corticosteroids, for example, inhibit the recruitment

of leukocytes and monocytes to the affected area, reduce vascular permeability, and inhibit the synthesis or release of numerous inflammatory mediators and cytokines. Moreover, there is evidence that corticosteroids improve outcomes in otorrhea in children and AOM in animal models.

But two randomized controlled trials conducted by Dr. Chonmaitree and her colleagues demonstrated no clear benefit for corticosteroids and antihistamines alone or in combination in patients taking antibiotics.

Both studies had four arms. Some patients received two placebos, some received one placebo plus corticosteroid, some received one placebo plus antihistamine, and some received corticosteroid plus antihistamine.

The first study involved 80 patients, aged 3 months to 6 years, who were followed for 3 months. There were no differences in laboratory values, including levels of histamine and leukotriene B4 that could be attributed to either of the drugs.

However, corticosteroid treatment was associated with a lower rate of treatment

failure within the first 2 weeks and a shorter duration of middle ear effusion.

A second trial followed 180 high-risk children with at least two previous episodes of AOM for 6 months. There were no statistically significant differences in the percentage of patients experiencing treatment failure in the first 2 weeks. But there was a significant difference in the duration of middle ear effusion. This difference favored placebo.

Patients receiving placebo alone experi-

enced a median of 25 days of middle ear effusion.

Patients receiving antihistamine alone experienced middle ear effusion for a median of 73 days, almost three times longer.

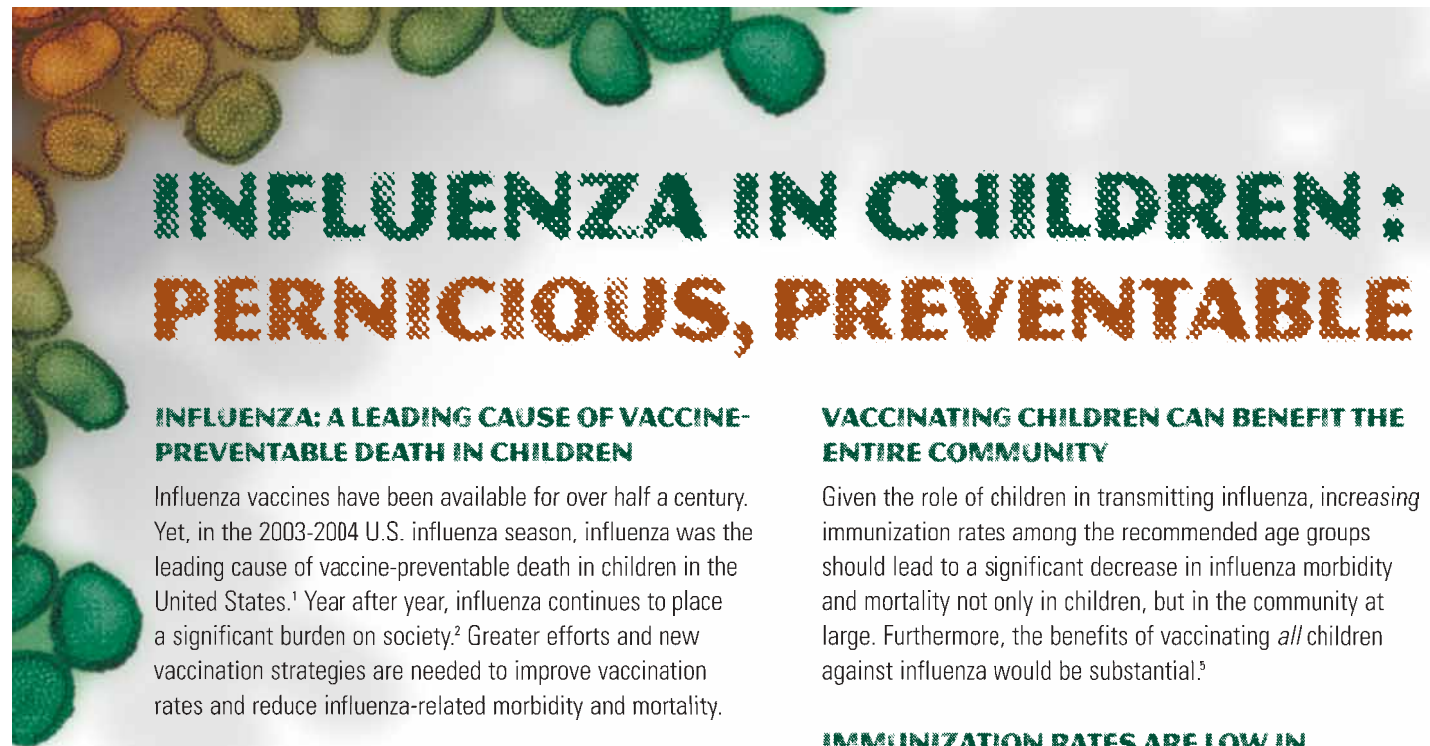
Patients taking corticosteroid alone had about the same duration of effusion as did the placebo patients, and patients taking antihistamine and corticosteroid experienced a median of 36 days of effusion.

The conclusion was that antihistamines actually prolong middle ear effusion in pa-

tients with AOM and thus should not be used.

The Cochrane Collaboration conducted a detailed metaanalysis on the use of antihistamines and/or decongestants in AOM and came to similar conclusions (Cochrane Database Syst. Rev. 2004;3: CD001727).

Reviewing 15 randomized controlled trials involving a total of 2,695 cases, the investigators found that the combined evidence favored neither antihistamines nor



INFLUENZA: A LEADING CAUSE OF VACCINE-PREVENTABLE DEATH IN CHILDREN

Influenza vaccines have been available for over half a century. Yet, in the 2003-2004 U.S. influenza season, influenza was the leading cause of vaccine-preventable death in children in the United States.¹ Year after year, influenza continues to place a significant burden on society.² Greater efforts and new vaccination strategies are needed to improve vaccination rates and reduce influenza-related morbidity and mortality.

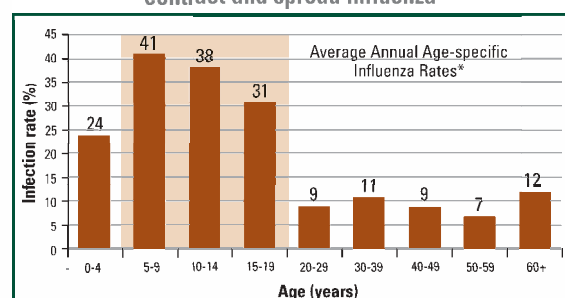
SUBSTANTIAL MORBIDITY AND MORTALITY EVEN IN HEALTHY CHILDREN¹

Significant morbidity and mortality is seen in healthy children as well as in those at high risk. During the 2003-2004 influenza season, 153 children died from influenza-related causes, 37% of whom were aged 5 to 17 years. Of these 153 children, **47% were previously healthy**, with no underlying medical conditions.

CHILDREN ARE VECTORS FOR INFLUENZA TRANSMISSION

Since children spend much of the day in close contact with other children, an infected child can easily spread the virus to classmates at day care or school. In one study, children aged 5-14 years were approximately 4 times more likely to be infected with influenza than adults (see chart).³ A school-aged child is often the origin of a flu epidemic, spreading the virus to family members and the community at large, including the elderly and other high-risk populations.⁴

School-aged children are most likely to contract and spread influenza³



*Derived combined rates for influenza types A (H1N1 and H3N2) and B over the course of 7 outbreaks during the years between 1976 and 1981 in Tecumseh, Michigan. Monto AS, Sullivan KM. *Epidemiol Infect.* 1993;110:145-160³

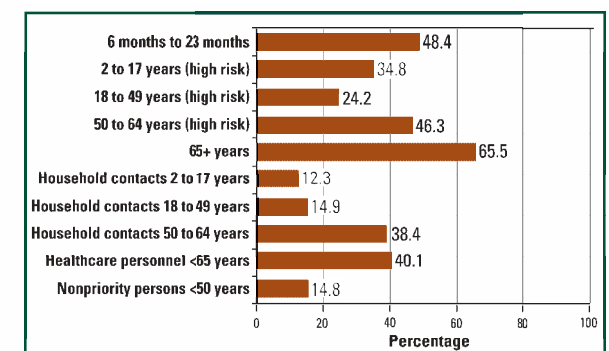
VACCINATING CHILDREN CAN BENEFIT THE ENTIRE COMMUNITY

Given the role of children in transmitting influenza, increasing immunization rates among the recommended age groups should lead to a significant decrease in influenza morbidity and mortality not only in children, but in the community at large. Furthermore, the benefits of vaccinating *all* children against influenza would be substantial.⁵

IMMUNIZATION RATES ARE LOW IN CHILDREN AGED 6 TO 23 MONTHS

In the 2004-2005 influenza season, more than half of children aged 6-23 months (the age recommended for vaccination in 2004-2005 by the Advisory Committee on Immunization Practices [ACIP]) did not receive an influenza vaccination.⁶ Thus even among children whom the CDC/ACIP recommend for influenza vaccination, immunization rates are falling well short of the desired goal.

Influenza Vaccination Rates^{6,7}



CDC. *MMWR.* 2005;54(12):304-307⁷

VERBATIM

'I will contend that you and I are coming off a period of relatively mild staph and [entering] a period of bad staph.'

Dr. Kenneth Alexander on
CA-MRSA, p. 21

decongestants on their primary outcome measure, which was persistent AOM at 2 weeks.

There was at least one significant difference, however—patients taking antihistamines and/or decongestants experienced significantly more side effects than did patients taking placebo.

"I conclude that for decongestants and antihistamines in acute otitis media [there is] no benefit for early cure rate, no benefit for symptom reduction, no benefit for prevention of complications, and increased risk for side effects," Dr. Chonmaitree said at the meeting, which was sponsored by the American Pediatric So-

ciety, Society for Pediatric Research, Ambulatory Pediatric Association, and American Academy of Pediatrics.

Corticosteroids have similar evidence of inefficacy, and the bottom line is that the symptomatic treatment of AOM should include only an analgesic/antipyretic, she said.

Regarding the use of steroids, decongestants, or antihistamines in AOM, Dr. Richard M. Rosenfeld of Long Island College Hospital, New York, said in an interview that he largely agrees with Dr. Chonmaitree. "I would say the evidence [for their use] is quite weak. Occasionally you'll find a little statistically significant

benefit pop out on one of the outcomes. . . but looked at as a whole the benefits are quite small if not trivial or absent. And when you then factor in the issue of potential side effects, it's a real tough case to recommend adding these adjuvant therapies. . . In the child who's a frequent flyer and manages every couple of weeks to get a new episode of acute otitis, I think that it becomes even more ludicrous to repeatedly expose them to therapies of questionable benefit but significant adverse effects." Dr. Rosenfeld is cochair of the American Academy of Pediatrics Subcommittee on Otitis Media With Effusion. ■

International Vaccine Records Usually Valid

BY ROBERT FINN
San Francisco Bureau

SAN FRANCISCO — Records for most vaccines from most countries of origin for children adopted internationally are trustworthy, Dr. Bindy Crouch said in a poster presentation at the annual meeting of the Pediatric Academic Societies.

For this reason, Dr. Crouch of the State University of New York at Stony Brook and her colleagues recommend that antibody titers should be tested before revaccinating adopted children who have documentation of vaccines that were given in their countries of origin.

The study involved a retrospective chart review of 219 internationally adopted children seen between January 2003 and December 2004.

Of those children, 72 came from China, 87 from Russia, 28 from Korea, 19 from Guatemala, 4 from Ethiopia, 2 each from Belarus, Colombia, and the Philippines, and 1 each from India, Kazakhstan, and Romania.

At the time of adoption, 73% were under the age of 2 years.

With the exception of hepatitis B among children adopted from Korea and mumps among all children, the percentages of positive antibody titers were similar to rates that have been reported in U.S. vaccine studies.

For example, of the children with records of DTP vaccine, 99% were titer positive for diphtheria antibody and 88% were titer positive for tetanus. Children with records of polio vaccine were 95% titer positive, those with records of measles vaccine were 92% titer positive, and those with reported rubella vaccine were 92% titer positive.

On the other hand, of children adopted from Asian countries other than China (28 of 31 of these children came from Korea), only 63% of those who had records of hepatitis B vaccine were titer positive. This was a significantly lower percentage of positive titers than that seen in children from all other areas.

The investigators suggested that the lower percentage of positive hepatitis B titers in children from Korea may be due to the manufacturing, storage, or administration of vaccine, but it is also plausible that Korean children have poorer responses to the vaccine.

Only 67% of all the adopted children with records of mumps vaccine had positive titers, which the investigators said was significantly lower than the percentage reported in U.S. vaccine studies. Investigators said that this may be attributable to issues with vaccine handling and storage, inaccurate record keeping, or an impaired immune response to the mumps vaccines used.

The meeting was sponsored by the American Pediatric Society, Society for Pediatric Research, Ambulatory Pediatric Association, and American Academy of Pediatrics. ■

...AND STILL PREVALENT

CHILDREN 2 TO 17 YEARS OLD ARE OFTEN CONTACTS OF HIGH-RISK PERSONS, YET ARE RARELY IMMUNIZED

The CDC/ACIP recommend influenza vaccination for children who are household contacts of high-risk individuals.² Nearly 1 in 3 children aged 2 to 17 years is a household contact of a high-risk person (29.3% according to a CDC estimate).⁶ Yet in a recent study, the vaccination rate for this group was only 12.3%—even lower than the rate for *non*-targeted persons <50 years (see chart).⁶ Since children play a major role in influenza transmission, this statistic is especially alarming.

ACIP HAS EXPANDED ITS RECOMMENDATIONS FOR THE 2006-2007 INFLUENZA SEASON

Children Aged 2 to 5 Years and Their Close Contacts⁸

During its February meeting, the ACIP expanded the original recommendation for vaccinating children aged 6 to 23 months to include children aged 24 to 59 months. The ACIP also recommends expanding routine influenza vaccination for household contacts and out-of-home caregivers of children aged 24 to 59 months. Approximately 5.3 million more children and 11.4 million more healthy close contacts will be included in the new recommendations.

THE CHALLENGE—AND OPPORTUNITY—AT HAND

There is a pressing need for increasing vaccination rates among children in the ACIP-recommended priority groups: children aged 6-59 months, and children who are household contacts of these and other high-risk individuals. The newly expanded recommendations may present further challenges to immunization efforts, particularly among the 24- to 59-month age group and their household contacts. Moreover, studies have shown that increasing vaccination rates among all children aged 2-17 years can decrease influenza morbidity and mortality in the general population.⁵

WHAT YOU CAN DO TO HELP: INITIATE THE VACCINATION CONVERSATION

Immunization outcomes are strongly influenced by physicians' recommendations.⁹ This holds true for both healthy and high-risk children. Immunization outcomes showed that 70% of children were vaccinated if the parents recalled a physician's recommendation versus only 3% if they did not. Physicians must therefore play a proactive role in 1) identifying children who are recommended by the ACIP for influenza vaccination and 2) educating parents about the importance of immunization. Such grassroots efforts, combined with comprehensive vaccination strategies, will better help protect children, their families, and the entire community against influenza.

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