New guidelines on preventing infective endocarditis end routine antibiotic prophylaxis before dental treatment for most patients

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by Deborah Johnson • Correspondent

Very few patients will require antibiotics prior to dental treatment under new guidelines from the American Heart Association (AHA).

For decades, it was believed that patients with heart lesions or diseases needed antibiotics prior to dental work to prevent infective endocarditis (IE), an uncommon but life-threatening infection of the heart’s valves.

The AHA guidelines, endorsed by the Academy (Pediatrics. 2007;120: 649), were revised in light of evidence that antibiotics prevent only a small percentage of IE cases, if any at all, said Jane Newburger, M.D., M.P.H., FAAP, a Boston pediatric cardiologist who co-authored the guidelines. In fact, she said, studies show that IE is more likely to result from the bacteria associated with daily activities such as chewing food, using a toothpick, flossing or brushing.

“To some extent, it’s not always something we can prevent,” Dr. Newburger said.

The mucous membranes of the mouth are host to bacterial organisms that can be disturbed by dental cleanings or surgeries, said Robert S. Baltimore, M.D., FAAP, who served as a liaison between the Academy and the AHA, and was a co-author of the guidelines.

However, the link between dental procedures and IE is circumstantial, and the number of cases related to dental procedures has been overestimated, according to the report in Circulation (http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.106.183095).

Dr. Baltimore said those who are at high risk for infection will continue with the antibiotic regimen under the new guidelines. However, the definition of “high risk” has been altered to mean that one could suffer a grave outcome as the result of IE, not just that one might get it. Bad outcomes include severe cardiac disability and death.

High-risk patients include those who have:
• cyanotic congenital heart defects that have not been surgically repaired;
• defects that have been repaired, but with shunts or conduits;
• cardiac defects repaired within the past six months;
• artificial heart valves;
• previous episodes of IE; and
• transplanted hearts that have developed valve problems.

In addition, the AHA guidelines have eliminated antibiotics for preventing IE in patients undergoing surgeries in the gastrointestinal or genitourinary tracts.

Antibiotics still are recommended for surgeries in the upper respiratory tract where there is danger of perforating a mucous membrane.

Dr. Baltimore and Newburger said that in revising its guidelines, the AHA weighed the negligible benefits of antibiotic prophylaxis against adverse effects, such as the emergence of microorganisms resistant to antibiotics. The allergic and toxic effects of antibiotics, as well as cost, also were considered.

Good oral hygiene to prevent infections should be emphasized over the use of antibiotics, the physicians said.

Now it’s a matter of educating the public. Many dentists are requesting letters from cardiologists to confirm that patients no longer need antibiotics. Dentists and physicians will need to communicate to see how each patient’s circumstances fit the recommendations. The pediatric cardiologist should have the final say.

“We’re sending out tons of letters,” Dr. Newburger said. “We’re educating the families as well.”

Dr. Baltimore said it’s possible some parents will feel vulnerable when they learn antibiotics no longer are a part of their children’s dental routine.

“It’s definitely been a security blanket, and it’s being taken away,” he said. “There are parents of older children who had it drummed into them that they needed to make sure the dentist provided antibiotics.”

— Robert S. Baltimore, M.D., FAAP

Dr. Newburger

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