



Antibiotic prophylaxis: A NICE fade-out



The topic of antibiotic prophylaxis has undergone major change in recent years. Under the umbrella of antibiotic prophylaxis, pre-dental treatment has 3 dominant arms: (a) heart malformations at high risk for infective endocarditis (IE),^{1,2} (b) nonvalvular heart and vascular devices,³ and (c) non-cardiovascular diseases.⁴ Pre-dental antibiotic prophylactic treatment for the prevention of maxillofacial complications is different and should be independently discussed.



Pre-dental antibiotic prophylactic treatment for prevention of IE has been the core of the American Heart Association (AHA) guidelines since 1955. Several versions have been published, most recently in April 2007, the first update since 1997.¹ The 2007 guidelines were characterized by a systematic approach to the literature that concluded in the elimination of a vast number of cardiac conditions (low- and moderate-risk groups) that require administration of antibiotics prior to dental procedures. This change was anticipated after a similar trend in the current version of the protocol of the British Society of Antimicrobial Chemotherapy (BSAC).² Furthermore, the most recent National Institute for Health and Clinical Excellence (NICE) recommendations presented another dramatic step toward the abandonment of antibiotic prophylaxis.⁵

Nearly 2 years have passed since the 2007 guidelines of the AHA were publicized, facilitating assessment of the responses to the AHA guidelines among dentists, patients, and physicians.

The acceptance of the new 2007 AHA guidelines among dentists is proceeding successfully.⁶ Certain opinions presented as principles in the AHA publication are being ambiguously apprehended. This gap in knowl-

edge can be bridged by educational programs to analyze the significance of the principles in the 2007 guidelines.

Furthermore, patient acceptance of the new 2007 AHA guidelines is moderate to high, according to a recent study completed in our department. It appears that one of the major barriers for a higher acceptance rate by patients was their physicians' points of view.

It can be indirectly ascertained that a sector of physicians did not adhere to the 2007 AHA protocol. This trend did not ebb over time. Nearly 24 months after the publication of the 2007 AHA guidelines, it is now clear that the reason for rejection by physicians is not due to lack of exposure with the new protocol but because of an intentional opposition toward the change, such as the response seen to the BSAC guidelines.⁷ In a critical review, Shanson advocated the evidence behind the controversial statements in both the British and American announcements.⁷

A survey directed at the physician population would clarify the weak points of the protocol where rejection most frequently occurs. This information may provide important feedback for the working groups.

In light of this experience, it is probable that the dramatic changes in the 2006 BSAC and 2007 AHA guidelines require an extended interval so that the response toward these innovative guidelines may be evaluated.

Nonvalvular heart and vascular devices, including pacemakers, implantable defibrillators, coronary and vascular stents, synthetic grafts, and intravascular filters, were suggested as being indications for antibiotic prophylaxis. The risk of infection for each of these devices was summarized by Baddour et al.³ However, no prophylactic treatment was suggested according to either the 1997 AHA recommendations⁸ or the 2007 AHA report.¹ This exhibits a low risk for IE.

The need for prophylactic treatment for non-cardiovascular diseases, such as shunts, organ transplants, immunosuppressed patients, and



other debilitating diseases, was evaluated. Prophylactic antibiotic therapy was not recommended.⁴ The only exception was the pre-dental antibiotic prophylactic treatment for prosthetic joints. This was in accordance with the recommendation of a professional panel of experts.⁹

The modifications in the BSAC, AHA, and NICE protocols reflect how these guidelines are rapidly changing. However, the hesitant response of the medical community harbors a heavy burden on the dentist. Proper management of patients at risk for IE should include consideration of both official major clinical guidelines, as well as individual special requests of the attending physicians in accordance with specific clinical conditions. With regard to nonvalvular heart and vascular devices and noncardiovascular diseases, there is a general consensus in the literature for antibiotic prophylaxis where indicated; however, there are still no official guidelines.

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