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Antibiotic prophylaxis for dental patients with joint replacements: The ADA versus AAOS

In 2012, The American Dental Association (ADA) in conjunction with the American Academy of Orthopaedic Surgeons (AAOS) issued an evidence-based guideline and evidence report with recommendations for prevention of orthopedic implant infection in patients undergoing dental procedures.¹ In summary, there were three recommendations. The first recommendation was the practitioner might consider discontinuing the practice of routinely prescribing prophylactic antibiotics for patients with prosthetic hip and knee joint implants undergoing dental procedures. This was a limited grade recommendation. The second inconclusive grade recommendation dealt with their inability to recommend for or against use of topical oral antimicrobials in patients with prosthetic joint implants or other orthopedic implants undergoing dental procedures. Finally, the third consensus grade recommendation supported maintenance of appropriate oral hygiene in patients with prosthetic joint implants.

In January 2015, a report from the ADA Council on Scientific Affairs published a document that outlines the use of antibiotic prophylaxis prior to dental procedures in patients with prosthetic joints.² This recommendation from the panel of experts declared that the best evidence (four case-control studies) from the literature (until 2014) including the 2012 publication of ADA/AAOS led them to believe that there is no best evidence that demonstrates an association between dental procedures and prosthetic joint infection. Hence the recommendations were much different from the 2012 joint ADA/AAOS guidelines. This expert panel recommended against routine use of antibiotic prophylaxis

for dental patients with prosthetic joint implants to prevent prosthetic joint infection, with some caveats of situations that needed more attention both by the practitioner and the patient. This new recommendation appears to be at odds with the prior ADA/AAOS recommendation. The AAOS reacted with a statement that questions the evidence used by the expert ADA panel.³ In fact, the AAOS thought the new recommendation had overstepped any available evidence. The AAOS maintains the opinion that there have been no additional higher quality studies since the publication of the 2012 joint ADA/AAOS clinical practice guideline and hence is of the opinion that no change to the strength or level of recommendation was indicated. The AAOS expressed its disappointment with the ADA's unilateral approach³ and is looking forward to working with the ADA again on a closer collaborative effort to end these differences of opinion for the sake of patients and practitioners who were left to wonder where the jury stands on this very important topic. According to the AAOS article,³ there are three pillars of evidence-based practice of medicine: the patient's preferences and values, the clinician, and the evidence. If the patient's preferences are given priority over the clinician's decision, the evidence will be clearly undermined.

A cautious approach and case-by-case recommendation would be more appropriate for dental patients with prosthetic joint replacements as no two joint replacements are alike, in the same way that no two history and physical evaluations are alike among patients. The complexity of medical history and the complexity of joint replacements have to be taken into

serious consideration before the practitioner recommends the antibiotic prophylaxis or not. The jury might reconvene or might not be out on this crucial issue for a while. The important lesson to be learned from this is that dentists and orthopedic surgeons have to be proactive in initiating long-term prospective studies on patients with joint replacements seeking active dental care or vice-versa, the results of which might give us better evidence than is currently available. A recent study⁴ looked at acute kidney injury in patients undergoing elective joint replacement after antibiotic prophylaxis. Perhaps future studies should look at not only the pros and cons of antibiotic prophylaxis but also the

cost effectiveness of routine antibiotic prophylaxis prior to joint replacements.

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