
Article:
Chambers, J., Thornhill, M. orcid.org/0000-0003-0681-4083, Shanson, D. et al. (1 more author) (2016) Antibiotic prophylaxis of endocarditis - Authors' reply. The Lancet Infectious Diseases, 16 (7). pp. 774-775. ISSN 1473-3099

https://doi.org/10.1016/S1473-3099(16)30128-1

Sir

We thank Million et al who argue against antibiotic prophylaxis (AP) for all patients having dental procedures. However our point was significantly different. We wrote to support AP only in patients at high risk of infective endocarditis (IE) (principally with prosthetic valves or prior IE) having high-risk dental procedures (principally extractions and scaling).

Two of the studies used to construct Million et al's figure included only patients with native valve disease while the third included 24% prosthetic valves. The quoted efficacy for AP was 46%, 49% (1) and 91%. This is slightly at variance with Million et al. because van der Meer (1) found an OR for first-time endocarditis of 0.51 and for recurrent endocarditis of 2.13. Van der Meer et al used the first figure (1) while Million et al chose the second. Studies of prosthetic valves report better efficacy. Duval et al (2) showed a 1/10,700 incidence of IE in patients with prosthetic valves having unprotected dental procedures compared with only 1/149,000 in patients with prosthetic or native valve disease protected by AP. Horstkotte (3) showed no cases in 229 patients with prosthetic valves protected by AP compared with 2 in 117 having unprotected dental procedures.

We disagree that bacteraemia with oral Streptococci (OVS) is common before extractions. Approximately 2% have positive cultures before extraction compared with up to 65% immediately after extraction (5). Infective endocarditis with OVS is consistently reported up to 30 days after extractions and deep scaling (1,3).

It is simplistic to believe that IE from OVS is caused either by poor dental hygiene or dental procedures as if these were mutually exclusive. There is good evidence for both. Dental surveillance and attention to hygiene might be expected to reduce the

incidence of IE as a result of poor hygiene as suggested by Million et al based on the paper of Strom et al (5). However this study also showed a significant association between IE and dental extractions (P=0.03)(5). AP is needed to target those smaller number of cases caused by invasive dental procedures.

There is no evidence to show that withholding AP is safe in high-risk patients, rather the contrary. We therefore disagree with Million et al that the NICE stance is evidence-based and instead favour guidance produced on behalf of the American Heart Association and European Society of Cardiology by clinicians familiar with the complexities of this disease.

John Chambers, Martin Thornhill, David Shanson, Bernard Prendergast

References

1. Van der Meer JTM, van Wijk W, Thompson J, Vandenbroucke JP, Valkenburg HA, Michel MF. Efficacy of antibiotic prophylaxis for prevention of native-valve endocarditis. Lancet 1992;339:135-9.

2. Duval X, Alla F, Hoen B, Danielou F, Larrieu S, Delahaye F, Leport C, Briancon S. Estimated risk of endocarditis in adults with predisposing cardiac conditions undergoing dental procedures with or without antibiotic prophylaxis. CID 2006;42:e102-7.

3. Horstkotte D, Rosin H, Friedrichs W, Loogen F. Contribution for choosing the optimal prophylaxis of bacterial endocarditis. Eur Heart J 1987;8(Suppl J):379-81.

4. Shanson D, New British and American guidelines for the antibiotic prophylaxis of endocarditis : do the changes make sense? A critical review. Current Opinion in Infectious Diseases 2008;21:191-199.

5. Strom BL, Abrutyn E, Berlin JA, Kinman JL, Feldman RS, Stolley PD, Levison ME, Korzeniowski OM, Kaye D. Dental and cardiac risk factors for infective endocarditis. Ann Int Med 1998;129:761-9.