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Sir,

Appendix 1 of the latest BSAC Working Party Report on Guidelines for the Prevention of Endocarditis may be incorrect in implying that there is no risk from any dental procedure to patients with moderate-risk heart lesions and that prophylaxis should be stopped. To state categorically that there is no need for prophylaxis for these patients may be a step too far with the limited evidence currently available. It is well recognized that only a small number of cases of endocarditis may be related to previous dental manipulations. Nonetheless there is still insufficient evidence to judge efficacy or lack of efficacy of antibiotic prophylaxis for individuals with susceptible heart lesions undergoing high-risk dental procedures.

The main results of the analysis of epidemiological evidence, referred to in the report and editorial, are from a single case–control study of adults in the USA and a study in the Netherlands. The USA study found no link between the total dental procedures and endocarditis but the authors could not comment on the role of specific high-risk dental procedures as only small numbers of these procedures were included. The study noted that 6 of 273 cases of endocarditis and 0 of 273 controls had a recent dental extraction, 11 of 273 cases and 7 of 273 controls had periodontal treatment and only 1 case, and no controls, had recent mouth or gingival surgery.

Another case–control report in the Netherlands also had a limited study power due to the small numbers of individuals included. The authors of this study observed differences between cases and controls that suggested a causal relationship between endocarditis and procedures with a high risk of bacteraemia such as dental root work or extractions. They estimated that up to 6% of native valve disease endocarditis cases might be prevented by antibiotic prophylaxis of certain dental procedures. If this estimate were to be extrapolated to the UK there would be a limited impact on the total number of endocarditis cases but perhaps up to 100 individuals could have streptococcal endocarditis prevented each year. Viridans streptococcal endocarditis can result in damaged valves that need subsequent cardiac surgery.

A German case–control study of patients with prosthetic valves, undergoing procedures with or without antibiotic prophylaxis, observed endocarditis developing within 2 weeks of the procedure, but only in cases not receiving prophylaxis, including two cases after tooth extraction. Imperiale observed a 91% protective efficacy for antibiotic prophylaxis of at risk dental procedures in another USA case–control study.

Much larger case–control studies are required to ascertain actual risks associated with suspected high-risk dental procedures. These should include significant numbers of individuals having dental extractions, scaling and surgery in the mouth or gums.

The BSAC 2006 report extensively references cases of bacteraemia, and occasionally endocarditis, following non-dental procedures but fails to reference the numerous cases of endocarditis following dental extraction. Spontaneous streptococcal bacteraemia is difficult to detect, with only 0–3% of pre-extraction blood cultures positive for viridans streptococci, whereas dental extraction is associated with 40–100% streptococcal bacteraemia rates.

The Working Party report recommends antibiotic prophylaxis for dental extraction and other dental procedures for patients with high-risk cardiac conditions. Until there is more convincing evidence to change practice it is also logical to continue cover for patients with moderate-risk heart lesions undergoing high-risk dental procedures. Such moderate-risk heart lesions should include congenital or acquired heart valve lesions and non-cyanotic congenital heart disease.

Single-dose amoxicillin prophylaxis is inexpensive, rarely associated with serious adverse reactions and unlikely to contribute significantly to global antibiotic resistance problems. It should still be recommended for high-risk dental procedures for patients with moderate-risk heart lesions.

Transparency declarations

None to declare.

References