

*'The working party of the BSAC did consider scrapping antibiotic prophylaxis for dental treatment...'*

# A victory for science and common sense

## The new guidelines on antimicrobial prophylaxis for infective endocarditis

By the time any dental student in the UK qualifies they are almost irrationally concerned about infective endocarditis and dental treatment. When they first start clinical work the importance of this rare infection is inculcated into their minds. There is some justification for this concern, as infective endocarditis is a serious life-threatening condition. If treated successfully with prolonged intravenous antibiotics, it may still leave the necessity for open heart surgery which still has a significant mortality rate. The scientific link however between infective endocarditis and dentistry is tenuous and much over-emphasised. Thus, dentists do a variety of things to prevent this disease, some of which are predicated more on emotion than science, but largely based on the fear of medicolegal action.

There have been a variety of learned bodies willing to give guidance on the prevention of infective endocarditis including the American Heart Association, European Cardiac Society and Royal College of Surgeons of England. The authoritative body that gives definitive guidelines in the UK is the working party of the British Society for Antimicrobial Chemotherapy (BSAC), whose advice is adopted by the British National Formulary. In effect the BSAC advice is definitive, as is used in medicolegal or other disputes. The BSAC have recently published their latest guidelines and these are simple and full of common sense.<sup>1</sup>

The BSAC have suggested that only three groups of patients are at risk, these are; those who have had infective endocarditis, those with valve replacements and those with surgically-constructed systemic pulmonary shunts or conduits. Gone from the list are those with heart murmurs (except for those mentioned previously) ending incessant problems over whether a heart sound is pathological or innocent. This change may be difficult for some clinicians to accept, who have become used to the old guidelines, but it is a reflection of real rather than perceived risk.

The new antibiotic regimes are still essentially based on 3 g amoxicillin and 600 mg clindamycin. Azithromycin oral suspension is included in the new guidance for children who cannot swallow tablets, as clindamycin paediatric suspension is no longer available. Gone at last is the necessity to give intravenous antibiotics for certain patients, although this route can

still be used prior to general anaesthetics. This change alone is going to save a lot of patients the necessity of attending hospital for simple dental treatment. This is a victory for common sense, as the scientific evidence for the necessity for intravenous antibiotics for certain patient groups labelled as 'high risk' was sadly lacking.

The range of treatments requiring antibiotic prophylaxis has been reduced to 'all dental procedures involving dento-gingival manipulation.' This will mean that the number of procedures will increase and include for example the placement of matrix bands; but fewer patients will require cover. This, however, is a small price to pay for the complete lack of detail in the previous guidelines which caused so much confusion as to when or not to give cover.

For multistage procedures the new guidelines recommend alternating amoxicillin and clindamycin. Presumably for patients allergic to penicillin clindamycin and azithromycin are alternated, but this is not clear from the guidelines. However, overall this is much clearer, as previously and rather imprecisely, penicillin was not recommended for '3-4 months.'

The single and most effective measure that dentists could do to prevent infective endocarditis in patients at risk of this disease is to keep patients' mouths healthy and free from diseases that cause bacteraemias. The use of chlorhexidine or povidone iodine in the gingival crevice also markedly reduce the magnitude of dentally-induced bacteraemias and this is still to be recommended.

Based on all the available evidence, logically and scientifically there is no justification for giving antibiotic prophylaxis for any dental treatment to any patient at risk of infective endocarditis. There is no evidence that it works and plenty of evidence that it can fail. The working party of the BSAC did consider scrapping antibiotic prophylaxis for dental treatment, but this was a step too far at the present time, hopefully it won't be in the future.

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1. Elliott T S J, Foweraker J, Fulford M R *et al.* British Society for Antimicrobial Chemotherapy. Guidelines for the prevention of endocarditis. *J Antimicrobial Chemotherapy* 2006. doi:10.1093/jac/dk1121.

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