

Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.

The abstracts on this page have been chosen and edited by Paul Hellyer

Antibiotic cover – a clarification for practice

Do patients at risk of infective endocarditis need antibiotics before dental procedures?

Cahill TJ, Dayer M, Prendergast B, Thornhill M. *BMJ* 2017; **358**: j3942

Individual risk assessment is needed for each patient at risk of infective endocarditis.

General dental practitioners of a certain age will recall routinely prescribing penicillin V (250 mg, qds, 5 days, 1 g stat) for any patient with a history of rheumatic fever, prior to any dental interventions which might cause a bacteraemia and consequently infective endocarditis. However, guidance from the National Institute for Health and Care Excellence (NICE) changed that routine in 2008. New guidelines stated that the use of antibiotic cover for such patients was unnecessary and unproven, and should consequently not be administered in the future. Despite that UK update, American and European cardiologists continue to recommend its use.

This current review suggests that it is still not known who is correct. It is acknowledged that invasive dental procedures cause a bacteraemia but that there is little evidence to show that these are a major cause of infective endocarditis. There is evidence to show that antibiotic prophylaxis will reduce the incidence of post-procedural bacteraemia but little evidence to suggest that this reduces the incidence of infective endocarditis. In addition, the risks of antibiotic prophylaxis include the possibility of contributing to antibiotic resistance and of an anaphylactic reaction.

The suggested response is to risk assess each patient. Those at high risk of infective endocarditis – those with ‘prosthetic heart valves, previous infective endocarditis or certain types of congenital heart disease’ – should be offered antibiotic prophylaxis after a discussion with the cardiologist, and an explanation of the risks and benefits if they are to undergo a high risk invasive dental procedure. A high risk invasive procedure is defined as one in which ‘there is manipulation of the gingival or periapical region of the teeth’ which includes extractions, scaling and root canal procedures but not injection of local anaesthetic.

When used, the recommended antibiotic prophylaxis is 3 g of oral amoxicillin 60 minutes prior the procedure, or 600 mg of clindamycin for those allergic to penicillin. Further suggested advice to the patient recognises the importance of excellent oral home care, regular dental follow up, the avoidance of tattoos and piercings and education regarding the symptoms of infective endocarditis.

The authors conclude by stating that the views expressed in the publication are their own and not necessarily those of the NHS or the Department of Health. The current NICE guidelines can be found at <https://www.nice.org.uk/guidance/CG64/chapter/Recommendations#patient-advice>, in which the heart conditions which may require prophylaxis are specified in more detail.

DOI: 10.1038/sj.bdj.2017.956

Dentists responsible for 10% of antibiotic prescriptions

Worldwide pattern of antibiotic prescription in endodontic infections

Segura-Egea J, Martin-Gonzalez J, Jimenez-Sanchez M, Crespo-Gallardo I, Saucó-Marquez J, Velasco-Ortega E. *Int Dent J* 2017; **67**: 197–205

Antibiotic prescribing practices are frequently inappropriate in endodontic therapy.

Systemic antibiotics are only appropriate in the treatment of apical periodontitis (AP) as an adjunct to endodontic therapy in cases where the host response is poor. AP is a polymicrobial infection, and the bacteria implicated in these infections are becoming resistant to currently available antibiotics.

This review highlights the antibiotic prescribing practices used in endodontic treatments in the Americas, Europe and Asia. Amoxicillin is frequently the antibiotic of choice (erythromycin or clindamycin for those allergic to penicillins). However, it was found that antibiotics were prescribed inappropriately for conditions such as localised pulpitis and symptomless draining sinus, which are more appropriately treated by endodontic therapy. The over prescription of antibiotics in the treatment of AP is a worldwide problem and further educational initiatives are required.

DOI: 10.1038/sj.bdj.2017.957

Many infections are becoming untreatable

Antibiotic resistance

Macgowan A, Macnaughton E. *Medicine* 2017; **45**: 622–628

New antibiotics and further education about prescribing are needed.

Some bacteria are inherently resistant to antibiotics, but others acquire methods to avoid destruction through evolutionary selection processes. The means by which resistance is transferred from one bacteria to another involves the transfer of genetic material by either direct contact between the cells, transfer via a virus or the uptake of raw DNA from the surrounding environment. Studies show that the use of antibiotics allows resistant bacteria to flourish both in individuals and the wider community. In the case of *Streptococcus pneumoniae*, antibiotic resistant bacteria have been shown to persist in the respiratory tract for up to a year.

S. pneumoniae is frequently found in the oral environment. A review (Evidence summary: the relationship between oral health and pulmonary disease, *BDJ* 2017; **222**: 527–533) has shown that there is evidence for a link between the presence of plaque and the development of pneumonia.

The tendency of older people for complex, multiple medical problems puts them at particular risk of chest infection. An increasingly ineffective pool of available antibiotics decreases the options for treatment but highlights the importance of maintaining good oral hygiene in at risk patients. However, research and development of new antibiotics and further education for prescribers is needed.

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