

Summary of: An investigation of antibiotic prophylaxis in implant practice in the UK

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VERIFIABLE CPD PAPER

FULL PAPER DETAILS

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Background There is increasing evidence of the inappropriate use of antimicrobials in dentistry and this may contribute to the problem of antimicrobial resistance. The research to date with regard to efficacy of antimicrobial prophylaxis in reducing failure of integration and postoperative complications when placing dental implants remains equivocal. The aim of this study was to investigate how dentists in the UK use antimicrobials prophylactically in implant practice. **Method** An e-mail link was provided in 2011 to an anonymous online (Smart-Survey) questionnaire using three databases of dentists who, by being on them, had registered an interest in placing dental implants. Absolute frequencies were used to describe the study sample demographics and examine the distribution of responses for all the variables investigated. **Results** One hundred and nine completed questionnaires were received. Seventy-two percent (n = 76) routinely prescribed prophylactic antibiotics for all procedures. There was a wide variation in the pre-operative and postoperative prescription regimens with the majority (84%) stating that it was to prevent infection at the site of surgery or to reduce a bacteraemia. **Conclusions** Although this was a small study with a low response rate, wide variations in antibiotic prescribing regimens with respect to drug, dose and duration were found. Further research is needed and guidelines developed to prevent antibiotic overprescribing and misuse.

EDITOR'S SUMMARY

It seems that confusion reigns as far as antibiotic prophylaxis is concerned. The abiding problem is not so much that the evidence is not available but that the interpretation of it leads practitioners to err on the side of apparent safety. In this, they must be egged on by the knowledge that patients will consider them to be looking after the patient's best interests in acting on the 'safe side' as well as practising somewhat defensively just in case an opportunistic infection intervenes to spoil the party.

Setting aside the serious matter of anaphylaxis for a moment, the lip service we pay to antibiotic resistance is one day going to haunt us as we run out of answers to treating microbial infections and their consequences. We happily spout platitudes about pre-antibiotic days being horrendous and unimaginable but we might very well soon be experiencing them for ourselves

unless we curb our inveterate misuse of the therapeutics.

As we have commented in these pages before, the clash of evidence, science, clinical judgment and cultural niceties makes for a maelstrom of complex decision making which ultimately leaves common sense behind for the sake of short-term comfort and apparent security.

Quite apart from the excellent points that Professor Martin makes in his Commentary about the standards of teaching and education in relation to antibiotic prescribing and postgraduate implant placement training, there is clearly a need for a much greater and concerted consensus on the need, or not, for 'prophylactic antibiotics'. The difficulty is knowing from where that lead could come. NICE have tried to garner support through their guidelines and the defence societies have added their weight by indicating that the body of scientific

opinion will support a practitioner following such guidance in the event of untoward circumstances. One feels that it is not so much a clinical shift that is required as a cultural determination. I am not sure we will grasp that particular nettle until the moment has passed, by which time any amount of prophylaxis will be too little and far too late.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 213 issue 8.

Stephen Hancocks
Editor-in-Chief

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IN BRIEF

- Suggests that there is currently a wide variation in prescribing patterns for antibiotic prophylaxis when placing dental implants.
- Reports that the evidence for using prophylactic antibiotics when placing dental implants is weak.
- Highlights the need for evidence-based guidelines with respect to prophylactic antibiotic prescribing when placing dental implants.

COMMENTARY

This small study has investigated the use of so-called 'prophylactic antibiotics' for implant dentistry. What the study has shown is that almost three-quarters of the 109 respondents routinely gave antibiotics before implant surgery. The duration of the antibiotic regimes reported in the paper were astonishing, ranging from one dose to seven days. This diversity of regimes is in stark contrast to the published work which has shown that only 2 g amoxicillin pre-operatively has some, but small prophylactic effect. The reason most of the respondents gave for prescribing the antibiotics was that they were taught to do so at postgraduate courses. If this is the reason it is a severe indictment of the quality of teaching on these courses.

Over half of the respondents quoted reduction of bacteraemias as the reason for giving antibiotics. Bacteraemias occur all the time and the normal defence mechanisms deal adequately with them, thus they are irrelevant in the decision to give antibiotics for implantology. In fact there is still huge controversy about the scientific basis for the action of prophylactic antibiotics in this and other situations, or if they work at all. They are often not given for major invasive surgery, so why give them for minor minimally invasive procedures? There is clearly a great deal of misunderstanding in taught postgraduate implant courses about the role of antibiotics, and it is probably time that they are not given at all for routine implant placement.

Theoretically, implants are placed electively in a clean site, using aseptic techniques; antibiotics should therefore be unnecessary. That is the theory, but sadly in practice many operators are not capable of aseptic oral surgery, as they have not had the necessary thorough monitored training. These operators often start placing implants after minimal and limited short courses, as a glance at the GDC and defence organisations' files confirms. Proper oral surgery postgraduate training is absolutely essential for implant placement and for the safety of patients, not antibiotics.

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AUTHOR QUESTIONS AND ANSWERS**1. Why did you undertake this research?**

Since there is increasing evidence of the inappropriate use of antimicrobials in dentistry and that this may contribute to the problem of antimicrobial resistance, the aim of this study was to investigate how dentists in the UK are currently using antimicrobials prophylactically in implant practice. This has, as yet, not been established.

2. What would you like to do next in this area to follow on from this work?

There is very limited research to support evidence-based guidelines for the prescribing of antibiotics in implant practice. We would like to undertake randomised controlled clinical trials to establish a sound evidence base for creating clinical guidelines on the most appropriate use of antimicrobials in implant practice.