IN BRIEF

- Emphasises the need to undertake CPD in advances in medical practice that may affect prescribing for cardiac conditions which could be risk factors for infective endocarditis.
- Postgraduate organisers should be aware that courses need to be provided to dentists on prescribing antibiotics.
- This paper encourages awareness of which dental devices can be used safely in patients with pacemakers and implantable cardiac defibrillators.

VERIFIABLE CPD PAPER ONLINE

Dentists' knowledge of cardiac risk factors

Cardiac risk factors for dental procedures: knowledge among dental practitioners in Wales

S. A. Thompson,[1] J. Davies,[2] M. Allen,[3] M. L. Hunter,[4] S. J. Oliver,[5] S. T. Bryant[6] and O. Uzun[7]

ABSTRACT

Objectives
To determine knowledge and educational needs of dental practitioners in Wales regarding congenital or acquired cardiac disease and the provision of antibiotic prophylaxis.

Design
Self-administered postal questionnaire.

Settings
Cardiff University Dental Hospital, district general hospitals (HDS), all general dental practices (GDP) and community dental service (CDS) clinics throughout Wales.

Methods
A questionnaire sent to 1,182 dentists in Wales in 2004-5.

Results
528 questionnaires were returned (a response rate of 45%). These were analysed using one-way analysis of variance to compare summary scores between the occupation groups. Significant differences in knowledge of cardiac risk factors for infective endocarditis and for dental procedures requiring cover were observed between the occupation groups. The majority of dentists (92% GDPs, 94% CDS and 77% HDS) requested postgraduate education in cardiac risk factors and laminated flow diagrams for their surgeries as the preferred educational format.

Conclusion
The knowledge of Welsh dentists regarding cardiac conditions or procedures which are risk factors for paediatric and adult patients varied according to place of work. The study identified potential for under- and over-prescription of antibiotic prophylaxis within the current guidance. There was confusion as to which patient groups and cardiac conditions required prophylaxis and for which particular dental procedures. Postgraduate education detailing advances in cardiology practice is necessary for dentists.

EDITOR'S SUMMARY

This is a timely study, given the recent controversy surrounding the guidelines for antibiotic prophylaxis for the prevention of infective endocarditis (IE) in dental patients. An up-to-date knowledge of cardiac risk factors is vital for dental practitioners and the authors set out to examine this knowledge in dentists practising in Wales. In addition to IE prevention, they also looked at the implications for dentists treating patients with uncommon cardiac conditions and with pacemakers or implanted defibrillators.

The results highlight the need for regular continuing education for GDPs, covering advances in cardiology and the implications for dentists. Perhaps unsurprisingly, dentists' knowledge was shown to vary depending on their place of work. Knowledge of the safe use of electrical dental devices in patients with pacemakers or implanted cardioverter-defibrillators was particularly poor and while knowledge of antibiotic prophylaxis was better, potential for both under- and over-prescription was identified, highlighting some practitioners' confusion and lack of familiarity with the current guidelines. Knowledge of rare cardiac disorders was also found to be limited in dentists working in the general and community dental services.

This paper is an important beginning as it shows that not only is there confusion among dentists regarding cardiac risk factors, there is also a strong desire in the profession for regular updates in this area. The majority of dentists, regardless of their place of work, expressed a desire for postgraduate education on cardiac risk factors and appropriate prescribing. As the authors mention in their answers to the questions opposite, a short series of education papers on cardiac risk factors is planned, which we hope will contribute to the clarification of this important topic.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 203 issue 10.

Rowena Milan,
Journal Editor

DOI: 10.1038/bdj.2007.1071

TO ACCESS THE BDJ WEBSITE TO READ THE FULL PAPER:

- BDA members should go to www.bda.org
- Do not login on the BDA home page, if you are already logged in, please log out.
- Then, in www.bda.org click on the link to the BDJ in the top left of the screen. A new window will open. If a new window fails to open please check the settings of any pop up blocker software that you have installed on your computer.
- You will now be asked to login with your BDA website login details which are on your BDA membership card.
- Once your details have been entered you will be transferred to the BDJ website. If your login does not work please contact the BDA Membership Department on 020 7563 4550.
- If you are not able to access the article on the BDJ website there may be an issue with your system's firewall. If so, return to the BDA homepage and click on the link 'BDJ access problems' and follow the step by step guide.

FULL PAPER DETAILS

[1*]Clinical Senior Lecturer in Conscious Sedation and Special Care Dentistry, Division of Adult Dental Health, School of Dentistry, Cardiff University, Heath Park, Cardiff, CF14 4XY; [2]Specialist Registrar in Paediatric Dentistry, Barts and The London, Queen Mary's School of Medicine and Dentistry, Queen Mary, University of London, Turner Street, London, E1 2AD; [3]General Dental Practitioner/Dental Postgraduate Tutor/Sedation Trainer, [4]Reader/Honorary Consultant in Paediatric Dentistry, Division of Dental Health and Biological Sciences, [5]Clinical Lecturer in Restorative Dentistry/Postgraduate Sedation Tutor for Wales, Division of Adult Dental Health, [6]Research Fellow, Division of Adult Dental Health, School of Dentistry, Cardiff University, Heath Park, Cardiff, CF14 4XY; [7]Consultant in Paediatric Cardiology, Cardiff and Vale NHS Trust, University Hospital of Wales, Heath Park, Cardiff, CF14 4XW
*Correspondence to: Dr Shelagh A. Thompson
Email: thompsonsa@cardiff.ac.uk

Online article number E21
Refereed Paper – accepted 5 March 2007
DOI: 10.1038/bdj.2007.889
©British Dental Journal 2007; 203: E21

AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?
The idea for this study arose through a discussion between Michael Allen and Orhan Uzun. Michael was asking Orhan about a dental patient of his who had an indwelling defibrillator and he was unclear as to whether an ultrasonic scaler could be used. This led to a discussion about the lack of clarity regarding the management of some cardiological conditions in dental practice. Following a meeting with Dr Thompson it was decided to approach the Postgraduate Department to ask for their support in researching the degree of knowledge about the management of cardiological patients in various types of dental practices.

2. What would you like to do next in this area to follow on from this work?
We intend to publish a series of papers in the Education section of the *BDJ* on cardiac conditions from birth to adulthood to include how cardiac services are organised in the UK. The series would include medical implications and dental management of congenital and acquired cardiac conditions. Practical advice on management would be given together with case scenarios and a care pathway for appropriate referral. It is hoped the clarity of infective endocarditis guidelines will be included once disseminated from NICE or the BNF.

COMMENT

Dentists, when taking a medical history, are expected to ascertain if their patients have cardiac disease. Sometimes further information is required about the medical condition or its clinical significance and this may be sought from the patient's medical practitioner, their consultant or from a local dental specialist unit. Cardiac morbidity is important as many cardiac conditions necessitate a modification to dental management. For example, a positive history of endocardial disease has usually meant the administration of antibiotic prophylaxis prior to certain dental procedures.

This interesting survey studies several aspects associated with the delivery of dental care to patients who have congenital or acquired cardiac disease. It explores the knowledge that dentists working in Wales have about cardiac disease in relation to the provision of antibiotics. The questionnaire lists various cardiac conditions, in children and in adults, and asks if antibiotic prophylaxis is advised. The relevance of certain dental procedures is also considered with regard to chemoprophylaxis and dentists are asked where they would access information about the need for antibiotic prophylaxis. The use of certain types of dental equipment on patients with pacemakers or defibrillators is discussed. Finally and perhaps most importantly, in view of the results, this investigation explores the educational needs of dentists around this area and how CPD is best delivered.

The continuing advances in the field of cardiology and cardiac surgery means that the survival rates for patients with congenital or acquired cardiac disease are improving. These patients will require dental treatment. It is therefore imperative that dentists are cognisant with medical and surgical developments that have an impact on dental management. Postgraduate education has to respond to dentists needs and this paper makes inroads into how these educational demands may best be addressed. It is interesting that the use of emails and CD-ROMs was not a popular medium for updating information. One disappointing fact that emerges from this paper is the low response rate of 45%; hopefully this is a reflection of an unwillingness to fill in questionnaires and not apathy towards the importance of cardiac disease or CPD.

L. P. Longman, Consultant in Restorative Dentistry/Honorary Senior Lecturer, Clinical Lead for Medical and Surgical Dentistry, Liverpool University Dental Hospital