Summary of: Management of patients on warfarin by general dental practitioners in South West Wales: continuing the audit cycle

K. Dewan,[1] K. Bishop[2] and A. Muthukrishnan[3]

FULL PAPER DETAILS

[1*]Specialist Registrar in Restorative Dentistry, The School of Dentistry, University of Birmingham, St Chad's Queensway, Birmingham, B4 6NN; [2]Consultant in Restorative Dentistry and Implantology, [3]Associate Specialist in Restorative Dentistry, Department of Restorative Dentistry, Morriston Hospital, Swansea, SA6 6NL
*Correspondence to: Mr Karun Dewan
Email: karunsinghdewan@hotmail.com
Tel: +44 (0)121 237 2761; Fax: +44 (0)121 625 8815

Online article number E8
Refereed Paper – accepted 16 October 2008
DOI: 10.1038/sj.bdj.2009.112
©British Dental Journal 2009; 206: E8

Aims To ascertain the current management protocols of patients on warfarin by general dental practitioners (GDPs) in South West Wales and to compare these findings with current guidelines and the results from a previous audit published in 2003. **Materials and methods** A questionnaire similar to that used in the first audit was sent to 447 GDPs in South West Wales. In addition, questions were included on factors which might affect international normalised ratio (INR), the timing of pre-operative INR assessment and the risk of bleeding associated with implant surgery. GDPs' details were derived from the online GDC database of registered dental practitioners. Registered specialists and GDPs who practised only orthodontics were excluded. **Results** Of the 447 questionnaires distributed, 332 (74%) were returned. Eight percent (n = 26) of the respondents did not treat patients on warfarin. Two hundred and forty-seven respondents (74%) considered implant placement as a procedure with high risk of bleeding, with inferior dental block, sub-gingival restorations and sub-gingival debridement receiving a lower response (45%, 28% and 12%, respectively). When planning a high risk procedure, 206 respondents (63%) indicated they would seek advice from a cardiologist or general medical practitioner; none of the respondents would advise the patient to reduce their warfarin dose, while 1% indicated they would ask the patient to stop taking warfarin without seeking any medical opinion. A total of 278 respondents (84%) stated they would check the INR before treatment and of these, 214 (65%) indicated they would do so within 24 hours of treatment and 60 (18%) within 48 hours. Ten respondents said they would not normally check INR. One hundred and twelve respondents (34%) considered 2.5 as the safe upper INR limit for performing high risk procedures, 21 (6%) considered an INR of between 1 and 2 as the safe limit, 99 (30%) considered and INR of 3 as safe, 36 (10%) considered 3.5 as safe and 36 (10%) considered an INR of 4 as safe. Finally, 286 respondents (86%) considered drug interactions and 236 (71%) considered alcohol as significant influencing factors on INR. **Conclusions** The findings demonstrate a broad change in practice towards the new recommendations produced in 2001 but also highlight that further education and support may be necessary, as well as greater consistency in published guidelines.

EDITOR'S SUMMARY

This study follows up an audit originally published in the *British Dental Journal* in 2003 (*Br Dent J* 2003; **195:** 567-570). The findings of the original study suggested that there were misunderstandings among some general dental practitioners (GDPs) about the correct management of patients on warfarin and that there was a lack of awareness of the most recent guidelines, which were published in 2001. In this paper the authors carried out a similar audit, this time on a larger number of GDPs over a wider area.

Encouragingly, the results of this study broadly suggest that awareness of the current guidelines on management of patients on anticoagulants has increased since the original audit took place. For example, in the current paper only 1% of respondents would have stopped a patient's anticoagulant medication without seeking medical opinion – a marked reduction from 15% of respondents in the original study. However, in some areas there has been little change: the percentage of respondents who indicated that they would not treat patients on warfarin, while low at 8%, was largely unchanged from the previous audit's figure of 9%. Unfortunately, as the authors point out, there seems to be a core of practitioners who are either unaware of the guidelines or are resistant to changing their practice.

The authors highlight that there is conflicting advice in the guidelines issued by the British National Formulary and those issued by the North West Medicines Information Centre, which both audits have used as benchmarks, and this fact may well account for some of those dentists whose practice still does not comply with current guidance. More consistency is therefore required, and further education needed in order to ensure that clinicians have a clear understanding of the issues involved in the treatment of the increasingly large number of patients taking oral anticoagulants.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 206 issue 4.

Rowena Milan,
Journal Editor

DOI: 10.1038/sj.bdj.2009.146

IN BRIEF

- Provides an insight into the current management of patients on warfarin by GDPs in South West Wales.
- Highlights the need for each planned treatment to be assessed on its own merits with respect to the risk of bleeding.
- Raises awareness of the possible obstacles in managing warfarinised patients.
- Reinforces the current protocols in management of patients on warfarin in primary dental care.

RESEARCH

COMMENT

In patients taking oral anticoagulants and requiring up to three simple tooth extractions, the risk of significant bleeding is small, provided they have a stable International Normalised Ratio (INR) of between 2-4. This audit study showed an increased awareness and understanding among general dental practitioners (GDPs) of the issues surrounding management of patients on oral anticoagulants. GDPs should feel confident about treating these patients, as current guidelines suggest that no change in the warfarin regime is usually required. Oral anticoagulants should not be discontinued in the majority of patients requiring outpatient dental extractions.

A large majority of dentists in this audit study were aware of drug interactions (86%) from antibiotics such as metronidazole as a factor which could affect the INR. Whenever an antibiotic (including penicillins) is prescribed at the time of the extraction, some consideration should be given to checking the INR during the week following the procedure as it is frequently increased and may possibly cause post-operative bleeding. Patients should be advised **not** to take aspirin or non-steroidal anti-inflammatory drugs (NSAIDs), eg ibuprofen, for post-operative pain control. Paracetamol is considered the safest analgesic in patients taking warfarin.

The UK Medicines Information guidance was published in 2001, updated in 2007 and is due for review this year. The greatest change has been in the last update, which states that in those patients whose INR is stable, the INR can be checked up to 72 hours before the extractions. Practitioners in primary dental care should also adhere to similar guidance that advises that antiplatelet medication (such as low dose aspirin or clopidogrel) should not be stopped prior to minor surgical procedures. In both situations, where a patient is taking either warfarin or aspirin therapy and requires an extraction, the socket should be gently packed with an absorbable haemostatic dressing and carefully sutured.

In conclusion, this audit study about the management of patients taking warfarin has shown increasing compliance of general dental practitioners with published guidelines. Further publicity through postgraduate education courses and published articles such as this should do much to further improve compliance.

H. Devlin,
Professor of Restorative Dentistry,
School of Dentistry,
University of Manchester

AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?
This research was carried out as wide use of warfarin means that general dental practitioners (GDPs) are exposed to an increasing number of patients on anticoagulant therapy. Many of these patients require procedures which could be complicated by prolonged coagulation times. A previous survey to assess the management of patients on warfarin by GDPs in South West Wales highlighted possible misunderstandings in the appropriate management of such patients in light of recommendations published annually since 2001.This second cycle of the audit aimed to re-evaluate the position in a larger number of clinicians and from a wider geographical area.

2. What would you like to do next in this area to follow on from this work?
We would like to carry this study forward, firstly by re-evaluating the subjects to ascertain their practice in a few years time in view of improvements. Also, we would like to broaden the study to other parts of the country.