

Techniques for treatment and continuing education for patients whose teeth have pulpal and periradicular disease

Factors influencing the diagnosis and management of teeth with pulpal and periradicular disease by general dental practitioners. Part 2 by W. P. Saunders, I. G. Chestnutt, and E. M. Saunders *Br Dent J* 1999; 187: 548-554

Objective

To identify techniques commonly used in the management of periradicular disease by general dental practitioners and to ascertain views on continuing professional education in endodontics.

Design

Data was collected via a postal questionnaire distributed to 617 general dental practitioners in Scotland (33% of practitioners registered with the Dental Practice Board).

Results

417 (69%) questionnaires were completed and returned. Only 24.9% of respondents used rubber dam routinely. The majority of respondents used hand instruments for preparation with either sodium hypochlorite or local anaesthetic being used most frequently for irrigation. The mean time for treatment of a single rooted tooth was 71 minutes. The demand for continuing education courses was high with 340 and 197 respondents requesting endodontic and rubber dam courses, respectively.

Comment

The primary aim of this paper was to identify techniques that general dental practitioners in Scotland reported they used in the management of periradicular disease. A further aim was to investigate views on opportunities for continuing education. Information was collected by a questionnaire distributed to a random selection of dentists registered with the Scottish Dental Practice Board. The relatively high response rate (69%) and the rigorous experimental design has ensured that the results represent the views and practices of all dentists in Scotland.

The treatment regimes of the acute apical abscess reported by GDPs were interesting. A substantial proportion (32%) of dentists indicated that the treatment they provided was affected by non-clinical factors, such as time constraints. Clearly, this is an important factor in a busy practice, however, it must be emphasised that only treatments that have been shown to be clinically effective should be used. It is particularly important that antibiotics should be prescribed only when indicated.

As expected the routine use of rubber dam in the cohort was low (25%) and confirms previous work on this important aspect of root canal treatment. It is critical that steps are taken to assure that postgraduate courses are available to demonstrate that the application of a rubber dam for root canal treatment is simple in most cases.

The wide choice of instruments, the methods of manipulation and the techniques adapted for canal shaping clearly emphasise the changing pattern of treatment that has occurred with time. It also serves to illustrate that many clinicians still use techniques they were taught as undergraduates. These factors were also largely responsible for the types of irrigants and medicaments used, although the continuous use of the less biocompatible materials must be a cause for concern.

Obturation of canals using lateral condensation of gutta-percha is the method taught presently at all UK dental schools. The use of single points for obturation is not recommended as it has the potential to

leave voids within the canal system; this practice should be discontinued. The data on the 'time for treatment' were interesting and reflects the real investment in time that dentists make when completing root canal fillings. Clearly, this investment should be rewarded by a reasonable fee.

The uptake of postgraduate courses in endodontics by the respondents was encouraging. However, in view of the many major advances in root canal treatment that have occurred in recent years it is disappointing that there does not exist an effective mechanism to ensure that all dentists are exposed to and can learn about such fundamental improvements in clinical dentistry through some form of regional or national strategy.

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Conclusions

Traditional methods for preparing the root canal using hand instruments were favoured by most dentists. The major disincentive to the use of rotary instruments and new techniques for obturating with thermally softened gutta-percha was expense. The importance of rubber dam isolation requires reiteration and more continuing education courses are required to update clinical skills.

In brief

- The importance of the use of rubber dam in endodontics must be stressed to dentists.
- Changes in the treatment philosophy in endodontics in the past few years means that dentists who qualified more than 16 years ago are likely to be practising outdated techniques.
- Continuing education in endodontics, especially with 'hands on' courses, is necessary to update skills and techniques.

Do we really understand how clinical governance works?

Current understanding of clinical governance: a study of dental health care providers by P. V. Nicklin, and P. A. Batchelor *Br Dent J* 1999; 187: 555-556

Objective

To quantify what dental care providers understand by clinical governance and how it may impact on their activities

Design

A self-completed questionnaire administered to attendees at two postgraduate courses.

Results

A total of 71 forms were completed, a response rate of 88%. The majority of those responding recognised that clinical governance would impact in clinical areas of activity. However, nearly a third felt that any legislation would not affect receptionists or dental surgery assistants. Over 30% of respondents failed to keep records of any mistakes that occurred in their practices, a feature that is central to risk management. While overall the respondents felt that clinical governance would help to raise standards, there was also the fear that it would lead to increased litigation.

Conclusion

There is at present a lack of understanding of clinical governance and how it will impact on the profession. If GDCs

are to sustain public and political confidence in their clinical practice the issue of clinical governance must be embraced by the profession.

In brief

- Clinical governance is central to the Government's health care reform policy and is viewed in a positive light by the majority of the profession.
- There is a lack of understanding of how clinical governance will operate, and in particular, the profession appears unaware of its impact outside of the clinical treatment sphere.
- Risk management procedures in dental practice appear very limited and need to be addressed.
- The isolated nature of general dental practice provides a major challenge for successful implementation of clinical governance.

Comment

'A First Class Service', published in August 1998, launched clinical governance on an unsuspecting profession. Although a great deal has been said and written about it and what it might mean for dentistry there has been no attempt, until now, to find out what the members of the profession themselves understand or know about it. This study gives us a first glimpse of the difficulties the profession has encountered in understanding of what the Government wants and, as a consequence, the difficulties the Government faces in pursuing their quality agenda.

For many dentists the practicalities of how clinical governance will work remain unclear. The findings highlighted by this study should be used to inform those responsible for the implementation of clinical governance in general dental practice in the UK. It is acknowledged that slightly different organisational methods are being used in Scotland, Wales and England, but

the fundamental problems remain the same everywhere. If practitioners do not know or understand what is being asked of them there is precious little chance of them being able to comply.

One particularly worrying feature of this study is that the subjects used were a well motivated group. The sample comprised individuals who had taken the trouble to attend and find out what the issues were likely to be. To find such a lack of knowledge in this group is of great concern and it is crucial that the profession is aware of the problem and takes positive steps to correct it. It would be an interesting exercise to try the same questionnaire out on a random group of dentists and compare the results.

Perhaps the most encouraging aspect of the study is the positive attitude shown by the participants. This should be widely welcomed and encouraged. If real progress is to be made to demonstrate to the general public that the dental profession is aware of its

responsibility to them, that the need for accountability and quality assurance are accepted and that the public is right to trust us, we must embrace clinical governance wholeheartedly. It must not be seen as a necessary evil that is being thrust upon us against our will, it should be viewed as a positive step in the right direction towards a healthier and more open relationship with our valued customers — our patients.

If unacceptable quality variation is an issue for dentistry, then the methods of dealing with it must be clearly understood and must remain within the profession's control if self-regulation is to mean anything. Our medical practitioner colleagues have had their clinical governance leads in place since April '99. Before any progress can be made a similar first step must be taken for dentistry.

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A comparison of nitrous oxide and midazolam on cognition and mood

Cognitive properties of sedation agents: comparison of the effects of nitrous oxide and midazolam on memory and mood
J. M. Thompson, N. Neave, M. C. Moss, A. B. Scholey, K. Wesnes and N. M. Girdler *Br Dent J* 1999; 187: 557-562

Objectives

To compare the effects of nitrous oxide and midazolam on cognition and mood.

Design

A three-way, counterbalanced, cross-over study, using patients receiving conscious sedation for routine dental treatment.

Methods

On each of three separate visits, patients performed a computerised test battery to determine baseline cognitive performance. Then, following administration of either midazolam, nitrous oxide, or no drug, patients re-performed the test battery. Finally, patients completed visual analogue scales assessing their subjective mood state.

Results

Relative to baseline performance, midazolam administration produced significantly slower reaction times compared with nitrous oxide and no-drug conditions. Furthermore, patients receiving midazolam were impaired in accuracy relative to the other conditions on many of the cognitive tasks, particularly those assessing the recall of information. Patient performance in nitrous oxide and control conditions did not significantly differ. These results could not be explained by differences in mood between the conditions, as subjective mood ratings during midazolam or nitrous oxide administration were very similar.

Comment

This excellent, randomised controlled clinical trial emanates from the sedation unit at Newcastle and is another step forwards in our understanding of the clinical effects of sedation. Although using a relatively small group of patients (18 completed all three sessions), the cross-over nature of the trial meant that statistical differences could be demonstrated in a number of the factors being examined. These were most notable in the midazolam group where cognition (the act of acquiring knowledge through perception, intuition and reasoning) was quite measurably depressed in the intra-operative and post-operative phases.

Although the authors state that there were no significant differences with regard to mood, the data suggest that patients were much calmer in the midazolam group. It would also have been inter-

esting to test a true 'placebo' group (perhaps with the administration of pure oxygen) rather than, or in addition to, a no-drug group. None-the-less, the results demonstrate the changes in cognitive properties brought about by the administration of midazolam.

From a practical viewpoint, there is now sound clinical evidence showing the absolute need for written post-operative instructions following intravenous sedation (and, if applied logically, to oral sedation with the benzodiazepines). Equally, the authors have effectively proved that there is no need for special precautions following nitrous oxide administration. The General Dental Council in its latest advice (Maintaining Standards¹; para 4:16) has already moved some way towards this position and, if evidence based practice is to

have any validity, it must be hoped that they will remove the restrictions completely in the next edition.

The constant attention of the Press to accidents and deaths after general anaesthetics for dentistry means that the use of sedation is likely to continue to grow significantly in the coming years. Randomised, controlled clinical trials of this nature are the best way to advance knowledge and to ensure that accidents under sedation do not replace accidents under general anaesthesia.

¹ *Maintaining Standards* (1997; amended 1999)
London: General Dental Council.

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Conclusions

It is important for clinicians to be aware that peri-operative recall of information is reduced in patients who have undergone midazolam sedation. This is an advantage for patients who are anxious, and do not wish to be aware of the operative treatment being performed. However, as the cognitive impairment is enduring, an adult escort and written post-operative instructions should be mandatory for midazolam sedation patients. In contrast, the use of nitrous oxide sedation does not significantly impair higher cognitive tasks and thus patients receiving nitrous oxide sedation can resume normal activities in the post-operative period.

In brief

- The ability of patients to perform skilled tasks is impaired with midazolam sedation, but not with nitrous oxide/oxygen sedation.
- Midazolam sedation produces enduring amnesia in the peri-operative period but nitrous oxide does not impair memory.
- Patients undergoing midazolam sedation should receive written post-operative instructions, which must prohibit them from undertaking skilled tasks until the drug has been completely eliminated from their body.
- Patients receiving nitrous oxide/oxygen sedation may resume their normal daily activities upon discharge.