IN BRIEF

- 319 cases of infective endocarditis involving patients suing dentists were reviewed
- The legal basis for successful litigation after dental treatment was a short incubation period and an isolation of an oral *Streptococcus*
- No cases of infective endocarditis in this series were associated with restorative dentistry

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Infective endocarditis and dentistry

Infective endocarditis and dentistry: the legal basis for an association

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ABSTRACT

Objectives

The objectives of this study were to determine on what evidence infective endocarditis (IE) could be legally linked to dental treatment.

Method

The records of 319 legal cases involving dental treatment as the probable cause of IE were analysed. The medical history, type of dental operation, and whether antibiotic prophylaxis was provided were noted. The time taken for the onset of symptoms (incubation period) and hospitalisation was calculated. The identity of the infecting micro-organism was investigated and it was also noted whether litigation was successful for the patient.

Results

A total of 83 patients were successful in legally linking dental treatment to the onset of infective endocarditis. In all successful cases there was a short incubation period (*circa* nine days) and in 80 of the patients an oral *Streptococcus* was isolated. The dental operations included exodontia (28), scaling (29), endodontics (12) and minor oral surgery (11).

Conclusions

Dental treatment was deemed to be the probable cause of IE in 26% of patients who sought litigation. In the majority of legal cases clinicians did not follow recognised guidelines or keep adequate clinical notes. The three main factors which link dental procedures legally were the dental operation, the isolation from the blood of an oral micro-organism and a short incubation period.

EDITOR'S SUMMARY

We know from life in general that it is dramatic incidents that grab headlines and focus attention. The unusual, the rare and the tragic are frequently the items that attract notice and knowledge of them is arguably part of the need for survival, which may be interpreted in terms of professional as well as actual preservation. It is this instinct which is almost certainly behind practitioners' interest in case reports from the protection organisations which illustrate some of the pitfalls of dental practice and treatment.

Infective endocarditis is a rare, serious and potentially fatal complication following dental treatment. Its seriousness was certainly drilled into to me as an undergraduate and I suspect the overwhelming majority of us. Reading this paper one is left in no doubt of its seriousness, but also somewhat reassured of its considerable rarity. The authors have a significant number of years of dento-legal experience between them and in many ways unique access to, and insights into, the legal records that provide the material on which this insightful paper is based.

There are two other important factors to take into consideration when reading this paper. Firstly the use of the word 'success' in relation to those cases in which the court found in favour of the defendant. This needs to be viewed in the context that the patient had suffered as a result of the actions, or lack of actions, of a practitioner and that the 'success' needs to be tempered by the knowledge of the unquestioned trauma of the medical and then legal events that followed each and every incident covered by the cases cited here. The second factor is that the legal grounds for success are quite different from the scientific grounds required for proof of a connection between infective endocarditis and dental treatment, a fact that the authors highlight in their discussion.

A common denominator in every case which forms the background to the study, those that were legally successful and those that were not, is that either no medical history was taken or an inadequate medical history was recorded. Hopefully no one reading this will be omitting to take or update medical histories for every single one of their patients every day, thus providing the most essential primary protective step for all involved.

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 1.

Stephen Hancocks OBE,
Editor-in-Chief

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FULL PAPER DETAILS

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

The material for this paper was collected over about 20 years. There was a clear pattern to the civil litigation against dentists which is outlined in the paper. My colleagues Drs Ford and Butterworth, both experts in civil law, provided the background legal advice to the conclusions to the paper. Hopefully this paper will establish the basis for civil claims by any patient who has had infective endocarditis claiming that it is caused by dentistry. It however does not prove that there is a link between infective endocarditis and dentistry as the standard of proof (ie 51%) has been used.

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

I do not think that a follow-up will be possible as civil claims involving infective endocarditis (IE) and dentistry have substantially reduced. What is needed is acceptance of the guidelines of the recent British Society for Antimicrobial Chemotherapy Guidelines on IE and a prospective monitoring exercise on the future incidence of the disease.

COMMENT

This paper is very timely in view of the debate which has focussed on the indications for the prescribing of antibiotic prophylaxis in the provision of dental care. The authors have reviewed the case records of a total of 319 cases where legal action had been initiated and identified a total of 83 cases which were successful in establishing a causal link between the development of symptoms and the provision of dental care. The paper has particular value and merit in that the study included cases from outside the UK where there may be differences in the legal systems but not, apparently, in the tests applying to negligence.

The paper highlights the fact that there were deficiencies in the care and management of patients who developed symptoms. The authors draw attention, in particular, to the fact that in all successful cases there was a failure to report and record a complete medical history. This finding itself is worthy of reporting. The value of obtaining a current medical history and acting on the information given, in relation to the treatment to be undertaken, is of paramount and fundamental importance.

The second finding of significance highlighted by the authors was the fact that, in all cases, there was a failure to give recommended antibiotic prophylaxis pre-operatively. The cases which were reviewed occurred during the period 1983–2005 and it would be interesting to see if a further paper demonstrates any variation in prescribing or management over a period of more than 20 years.

With regard to the type of care provided, the review confirms that the most common links between treatment and symptoms were exodontia, scaling, endodontics and minor oral surgery. Significantly, no links were established with restorative care.

This is an important paper which is of interest to all dental practitioners regardless of location of practice in that it reports on cases arising in a number of countries other than the UK. The paper emphasises the need for dentists to be vigilant in obtaining a detailed medical history, in assessing the possible risks associated with the care to be provided and in the prescribing of prophylactic antibiotics in accordance with guidelines.

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