Management of periodontal diseases within the NHS three years on: are things any better?

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This paper will begin by briefly analysing the provision of periodontal care under the old and new contracts and introduce the concept of medical management formulas under the 'wellness model' rather than the traditional surgical approach that comprises the 'repair model'. A new online risk (and disease) calculator 'PreViser' developed in the United States and now available in the UK (Previser.co.uk) will be presented as an example of how UK Dentists can start working towards adopting the wellness model in modern preventative care practices. The presentation will then discuss the myths and realities surrounding one-stage full mouth disinfection, and ask how strong the evidence is for benefit, before taking a look into the future of novel host-modulation therapies and demonstrating how we can control what our genes do by what we eat!

In my BDA Conference paper three years ago, I outlined the magnitude of the periodontitis problem facing UK general dental practitioners (GDPs) and concluded that:

- Chronic periodontitis represented an understated and under-resourced problem in NHS dentistry
- More education, time and money were needed to address this growing healthcare burden.

Three years on and we now have a new contract, which some claim has reduced rather than increased the available resources. Complex periodontal care appears within band 2, translates to three UDAs or anywhere between £45 and £90 per course of treatment, relative to £100 under the old item 10c in the fee-per-item system. So much for progress...or is it?

The admirable philosophy underpinning the new contract was one in which prevention became the mainstay of 21st century NHS dentistry, rather than a fee structure which encouraged intervention and gave no financial recognition for diagnosis, risk management and preventative care strategies. This is a medical model rather than a surgical model and is rapidly emerging in the USA as the 'wellness model'. The idea is, you measure wellness, analyse risk for common diseases and re-distribute your resources to focus on those who need it most, rather than the 'repair model', where you fix it when it breaks. In the short to medium term, the patient and practitioner win, and in the longer term the funders also win. But the Department of Health (DoH) stopped short of full capitation because of the justifiable concerns that this may lead to supervised neglect in some cases. The result was a compromise, which inevitably had to involve some 'bean counting' to ensure activity levels were being maintained to justify the agreed GDP contract costs. However, just as the DoH needed to bean count, so did the general dental practitioner. The admirable philosophy behind the new contract became clouded by financial wrangling and a degree of discontent. The problem is that UK dentistry may not yet be ready for this huge philosophical leap, and many dentists are understandably suspicious of an underlying government agenda of cost-cutting. The following extract is typical of referrals now received for specialist periodontal care since the new contract was introduced: *'Dear Sir, ...on the new NHS regulations it would appear that I will only get 1 UDA for all the periodontal treatment and the practice owner has advised that it is totally uneconomical for us to treat the patient'.* So where do we go from here?

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Where do we go?

Periodontitis is now the major cause of adult tooth loss (approximately 60%) and prevalence rates remain at 10-15% for severe disease, 50% for mild-moderate disease and 85% in >65-year-olds. This is despite the fact that we have been successful in improving treatment outcomes and tooth retention. There are several reasons for the prevalence data remaining high: firstly, we do not target treatment towards those at greatest risk; secondly, we have been so successful in UK NHS dentistry that patients now expect 'teeth for life' and many will not contemplate extraction where there is any viable option to improve longevity; thirdly, our outcome measures have become more stringent in clinical trials and loss of a single tooth to periodontitis is regarded as the most robust outcome measure of failure (rather than retention of the other 27 being a measure of success). Oh if only that were the case for the success criteria applied to studies of implant success! Whilst our outcome measures have changed, the fact remains that those patients historically most at risk of periodontitis are still the most at risk and until we adopt a wellness model and do something practical about managing risk, this will remain the case.

My 2004 lecture focussed on the theory behind risk factors for periodontitis. This year I have been asked to address '*New developments in technology for managing periodontal diseases*' and will start by discussing one practical solution – a scientifically validated 'online' and real-time periodontal risk (and disease score) calculator, developed in the USA, which claims to provide a rapid, simple, accurate and objective risk score for individual patients. Is this a technology with the potential to help implement (at least in part) the wellness model?

What about the time it takes to treat moderate to severe periodontitis? The data I presented in 2004 indicated that UK experts estimated average treatment times necessary to appropriately manage moderate periodontitis at ≥4 hours, yet most GDPs were only able to spend one hour due to the remuneration associated with the old 'item 10c'. Marc Quirynen *et al.*'s landmark paper of 1995,[1] which re-visited the concept of full mouth periodontal therapy within 24 hours, set a hare running and since then over 15 studies have been published on one-stage full-mouth disinfection, or related treatment strategies. Inevitably, these have been misinterpreted and misrepresented. Indeed, some practitioners take the view that we now have evidence that periodontal therapy performed over four hours can be provided equally as successfully through a one hour full mouth ultrasonic debridement! Does this solve the financial problem? I shall attempt to answer this question and other related issues in Harrogate.

The future...

What of future novel technologies for managing a host-modulated disease like periodontitis? Is there a role for pre- or probiotics? Do these represent a paradigm technological shift in our approach to therapy?

Finally, what of the micronutrient approach? I shall present definitive data from a large epidemiological study by our group, which demonstrates clear negative associations between blood antioxidant levels and periodontitis prevalence. Can some of these novel micronutrients really control gene expression and down-regulate inflammation at a sub-cellular level? The answer from our own research is yes. But will this translate into clinical benefit and are they a practical supplemental periodontal therapy? I shall spend the last 15 minutes of my presentation taking a brief look into the exciting future of host-modulating therapies.

I look forward to sharing some thoughts with you, to a little controversy and some heated debate...that's the plan anyhow.

Professor Chapple declares that he is a consultant to the PreViser company.

1. Quirynen M, Bollen C M, Vandekerckhove B N, Dekeyser C, Papaioannou W, Eyssen H. Full- vs. partial-mouth disinfection in the treatment of periodontal infections: short-term clinical and microbiological observations. *J Dent Res* 1995; **74:** 1459-1467.

Professor Chapple will be speaking on 'New developments in technology and the management of periodontal diseases' on Thursday 24 May at the 2007 British Dental Conference and Exhibition, held at the Harrogate International Centre.

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