Implications of periodontal disease

Maggie Jackson discusses the care provision of patients with periodontal disease

The British Society of Periodontology's spring meeting in Newcastle offered delegates many interesting thoughts. For instance, keynote speaker Jimmy Steele presented population trends in periodontal disease implications, needs and provision of services provision of care within different contractual arrangements and the new NHS contract.

The development of periodontal diseases, treatment modalities and various avenues of research were also discussed, including Professor Nalin Thakker's look at genetic research. Yet, however much research is undertaken into the microbiology genetic factors diagnostic tools or risk markers, the bottom line is, as always, removal of plaque and prevention of new biofilm colonies.

Patient-based

Respectful education develops motivation of the patient and their readiness to learn, change, and comply with initially demanding cleaning methods. This is dentistry's greatest challenge but, in my experience, effective cleaning can become 'second nature'.

We can never promise a cure for periodontitis. Without patient participation, there are no successful long-term treatment outcomes; patients must 'own control of their disease'. Professional maintenance with accurate monitoring, honest assessment and supportive therapy is essential for these patients.

Maggie Jackson is a qualified dental hygienist. In 2003, she was awarded a master of philosophy from Leeds studying and researching periodontology. Maggie has co-authored part of the *Clinical Textbook of Dental Hygiene and Therapy*. She accepts referrals for non-surgical periodontal treatments from dental practices both at The Malt House in Manchester and Colchester and her own MIDHS practices in the north west. For more details, visit www.midhs.co.uk.

Aims and objectives

To discuss the implications of periodontal disease.

Expected outcomes

Correctly answering the questions on page 82 will demonstrate you understand the care provision of patients with periodontal disease.

Verifiable CPD hours: 1

Basic periodontal exam

The basic periodontal examination (BPE) is designed to screen and indicate protocols (Table 1).

For the exam, the mouth is divided into six sextants (upper and lower – front, right back and left back) and all the teeth in each sextant are examined using a probe, which should be 'walked around' the sulcus. Using a scoring system from 0 to 4, the highest BPE score is given to each sextant (code 0 is the ideal).

Code 1

Some plaque in any sextant is a code 1. It can be considered as transient but should be brought to the patient's attention with some oral hygiene instruction.

Code 2

Where there is bleeding on probing (BOP), performing a simple scaling and providing the patient with oral hygiene instruction can be futile without a follow-up. Even a 10-minute review, in a short time frame, to assess, encourage, reward and polish develops compliance. If this re-assessment has been missed over and over again then it is hard to go back at a later date and recommend debridement when the periodontal condition has worsened.

As a response to education (mainly by the media), patients are becoming more aware that it is not normal to spit blood – however long it has persisted for them.

Code 3

Treatment for a patient that presents with code 3 starts with questioning, listening, explanations and oral hygiene instruction. Once patients understand, and can prove to themselves, that it was their effort that reduced bleeding then this evidence will become their logic for maintenance. This is not the time for any extensive root surface debridement.

After specific oral hygiene instruction, a promised evaluation of their efforts in two weeks will motivate them to increase their efforts, making treatment effective and easier for the operator and patient. Instrumentation still needs to be done to the base of the pockets, and be thorough enough to remove debris, calculus deposits, plaque and subgingival biofilm.

Subgingival instrumentation on root surfaces can be quite painful, so patients are given the choice of LA infiltration. Patient discomfort can discourage sufficient debridement but is more tolerable with sharp

Table 1: Basic periodontal examination

Code	Description
0	No bleeding or pocketing detected
1	Bleeding on probing – no pocketing >3.5mm
2	Plaque retentive factors present – no pocketing >3.5mm
3	Pockets >3.5mm but <5.5mm in depth; signs of moderate periodontal disease
4	Pockets >5.5mm in depth; signs of advanced periodontal disease

Figure 1: Vision Interdental Perio Brushes

curettes, followed by flushing for a few seconds using the Perio-Flow. In patients with moderate pockets – and for whole mouth maintenance – I use this rather than ultrasonics.

Code 4

A full six-point chart is required in sextants with code 4, which is seldom relished by the operator or patient because of the associated time and cost. However, this could be postponed to after oral hygiene instruction and the re-evaluation follow-up because codes can be reduced in some sextants, making a full charting unnecessary. However, an intention to chart should be noted.

Explain to the patient that if code 4 is still present after oral health methods have been put into practice for two to three weeks then charting needs recording in sextants with deep sites. In general practice, this is a motivator and can be very effective at reducing the need to do a full chart.

To achieve this, patients need the information and tools available to do their part in eliminating bleeding and reducing pocket depths for themselves, before any definitive professional periodontal instrumentation (Jackson et al, 2006).

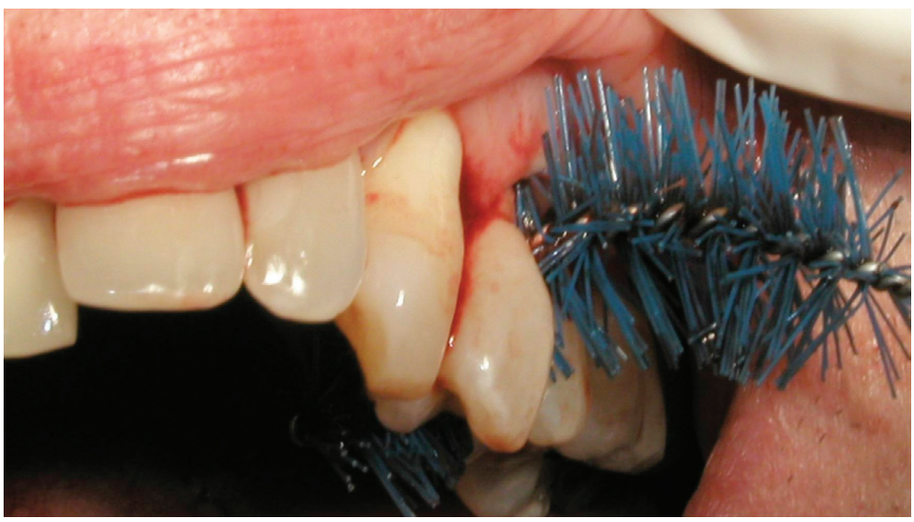

Figure 2: Demonstrating the technique used with the Vision Interdental Perio Brushes

Only when all oral health and debridement is completed and there is a satisfactory BPE or review of bleeding and pocket sites at six and 12 weeks can the preparation for placing restorative work be considered.

Rationale

Sometimes, the superficial plaque control is good but, on probing, there is bleeding and interdental pocketing especially at posterior interdental sites. Restoration without absolute stability of the underlying tissues can be a disaster for the patient and the dentist.

Although it is generally accepted that brushing teeth with fluoride toothpaste twice a day and interdental cleaning is a growing trend, persistent periodontal sites need more. While the use of interdental cleaning aids, such as floss and fine interdental brushes, at home help in maintaining tooth/gum health, they are primary prevention products and have a limited application in effective treatment to reduce periodontal breakdown.

Interdental brushes

I use the Vision Interdental Perio Brushes (Figure 1), which were designed, based on research, using a very snug, curved brush. Improved by a stronger wire and firm bristles, these brushes reach the base of moderate pockets, the soft inflamed tissues where bone has been lost and into the subgingival area of deeper sites, removing biofilm that, as we know, clings tenaciously to the root wall of the pocket.

This compression possibly speeds up recession (Tu et al, 2008) and reduces bleeding from the pocket wall remarkably quickly. I find that within two weeks sites of up to 6mm can reduce to 3-4mm.

When introducing the brushes to patients, I ask them to choose the most convenient time to learn how to use them and explain that the brushes should be used before tooth brushing and without toothpaste. I also explain that initial bleeding is to be expected as they are treating an 'infected wound'.

Because of its curve, the brush has no handle, which makes this method less obvious to use correctly. It requires some careful instruction – and a few patients need showing a second time – but the increased benefits are noticeable to clinicians and patients who claim a reduction in bleeding within days.

Technique

Insertion is apical to the contact point into the interdental area with enough wriggle to compress the papillae. When explaining and showing the technique to patients, slowly

Figure 3: The technique for using the Vision Interdental Perio Brushes on molars

insert the brush, little by little, between the teeth for the whole length of the bristle part (Figure 2). Size matters, so the simple message 'use the largest interdental brushes that can be persuaded into the interdental area without forcing' tells all.

Start with the biggest brush in the area with most bone loss – the upper molars (on the dominant hand side) are often the first place. It is useful to show to them their X-ray and explain how bone loss requires a surprisingly large brush. A range of the six sizes is available, and two or three of each size are adequate for months.

For molars, patients must get inside the cheek with a finger and a thumb with the wire between the digits and then close, keeping the teeth only very slightly apart (Figure 3). The tip of the bristle part is held directly onto the papillae tip (like a pen rests onto paper) with the hump of the curve towards the gum. This has to be done by feel; a mirror does not help.

I show patients the biggest couple of sizes in practice before finding the one that fits best for them, trying at each papilla in turn and moving on, trying the next smaller size and repeating. The curve of the brush is designed to reach into the deepest depths at the mid-point of the interdental pocket. To help with withdrawing, firmly pass it through until just a few bristles remain exposed for grip.

Likewise, it is removed not by a 'tug' but by gently compressing the papillae with the curve pressed against the gingival tissue, moving the brush along and allowing for the curve as it is removed. The brush is long enough to reach, but avoids catching, the lingual/palatal where there is swelling and deeper pockets. On occasion, where there is difficulty (eg, plump cheeks and large fingers), it may help to 'wriggle' from the palate on the last molars. Brush once in, once out, once a day (biofilm takes time to re-grow).

A small interdental brush – such as a Mini Vision – with soft 'crushable' bristles and a cap is recommended as a toothpick as needed after eating, avoiding an in/out scrubbing motion.

The coloured bristles identify size and show up plaque. When patients fully comply, it's time for root surface instrumentation. Although teeth may have reduced support, most teeth stay stable (no bleeding or further bone loss) for many years. Good maintenance and fluoride applications help maintain a natural dentition. PD

References

For the list of references that accompany this article, email pd@fmc.co.uk.

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