

Periodontal diagnosis in the context of the BSP implementation plan for the 2017 classification system of periodontal diseases and conditions: presentation of a patient with severe periodontitis following successful periodontal therapy and supportive periodontal treatment

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Key points

Illustrates the application of the BSP implementation plan for the 2017 world workshop classification of periodontal and peri-implant diseases and conditions.

Exemplifies the use of the 2017 classification system in a successfully treated and well-maintained patient whose treatment need is supportive periodontal treatment.

Demonstrates the diagnostic approach for a patient with generalised periodontitis, stage IV, grade C, who had been successfully treated and maintained for several years.

Abstract

Case report A case of a 59-year-old female patient who attended with a history of periodontitis, who had been successfully treated and maintained for several years, is described. Following a full periodontal assessment, the patient was diagnosed with 'generalised periodontitis; stage IV; grade C; currently stable'.

Conclusion The present case report exemplifies the use of the 2017 classification system in a successfully treated and well-maintained patient whose treatment need is supportive periodontal treatment. It recognises the fact that, by staging and grading, the patient is a high-risk periodontitis patient due to historical disease experience, but also that following successful therapy and maintenance she is currently 'stable' with no need for active periodontal therapy.

Introduction

Periodontitis is a chronic inflammatory disease characterised clinically by the presence of periodontal pockets and loss of periodontal

attachment. Radiological bone loss is evident, as measured from a reference point 1–2 mm apical to the cemento-enamel junction (CEJ) or an alternative reference point such as the margin of a restoration, and/or as clinical attachment loss (CAL) measured by probing from the CEJ or an alternative reference point. There are several considerations for the clinician when assessing a patient with periodontitis in order to be able to manage both the patient and their disease effectively. Managing the patient requires knowledge of their historical disease experience and its rate of progression before periodontal therapy. This is obtained by 'staging' and 'grading'. Managing a patient's disease also requires knowledge of their current periodontal status as determined by probing pocket depth charting and measuring bleeding on probing. In summary, the following require assessment:

1. The amount of periodontal tissue loss that has already occurred
2. The risk of future attachment loss and the identification of possible risk factors that may determine that risk, through a medical, dental and social history
3. Current levels of periodontal inflammation, which may be minimal in a patient who has been successfully treated.

In the new 2017 classification, the first two domains are captured by the new staging and grading procedure.^{1,2} Furthermore, the new classification, for the first time, provides formal definitions of periodontal health and recognises that periodontal health and limited amounts of gingival inflammation can exist on a reduced but currently healthy periodontium (disease stability) following periodontal therapy.^{1,3}

In this case presentation, we report on a patient with severe periodontitis who was

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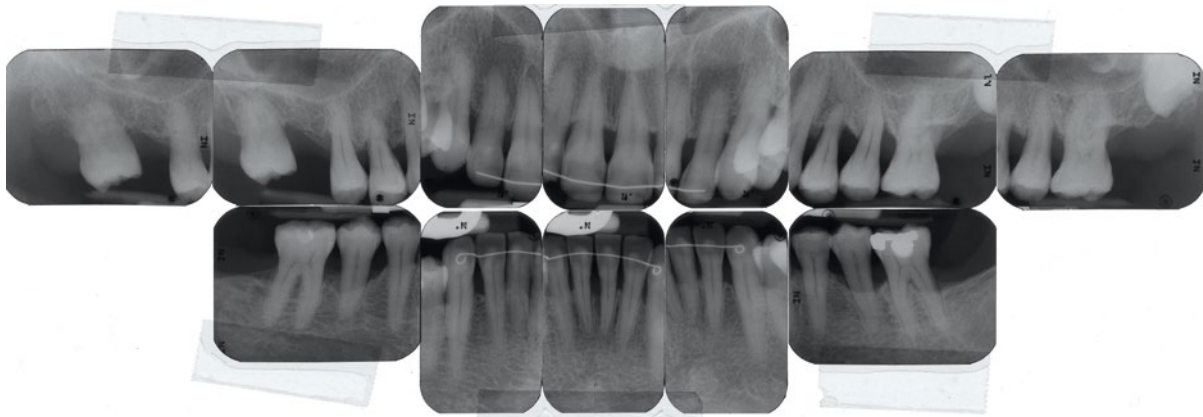


Fig. 3 Periapical radiographs

are directly relevant for disease classification according to the BSP implementation plan.¹

One of the main features of the new 2017 classification system is that periodontal health and gingival diseases are clearly defined for the first time, both on an intact and reduced periodontium.³ For example, a diagnosis of gingivitis requires a minimum amount of inflamed gingival sites (at least 10%). Gingivitis can exist both on an intact periodontium (that is, no clinical attachment loss/alveolar bone loss) and on a reduced periodontium. In the latter case, where the attachment loss/bone loss has occurred for reasons unrelated to periodontitis (such as surgical crown lengthening) it is called gingivitis, but where the clinical attachment and bone loss was due to periodontitis, the term 'gingival inflammation' is employed, because a single patient cannot represent a case of periodontitis and simultaneously also a case of gingivitis. Hence, such a patient would be a periodontitis patient with gingival inflammation.

In a patient with periodontitis, successful treatment and maintenance will result in resolution of periodontal pockets and inflammation. In such patients, probing depths of up to and including 4 mm may be consistent with (current) periodontal stability, if <10% of sites with PPD up to 3 mm are BoP and no sites with PPD 4 mm are BoP. If 10% or more of sites with PPD up to 3 mm exhibit BoP but no sites with PPD 4 mm bleed, then this is 'gingival inflammation in a patient with a history of periodontitis' and they are said to be 'in remission'. At first glance, these thresholds may appear confusing; however, the basic concept is that in a treated periodontitis patient, PPDs of 4 mm are consistent with a stable situation as long as there is no BoP at those 4 mm sites. The 4 mm non-bleeding site is referred to as a 'closed pocket'

as its risk of future breakdown is significantly reduced relative to sites with PPD of 5 mm or greater; the closed pocket is the desired endpoint of therapy.⁸ In the BSP implementation plan, this situation is therefore identified as either:

1. 'Currently stable' periodontitis (<10% BoP at sites with PPD \leq 3mm and no BoP at 4 mm sites)
2. Periodontitis 'currently in remission' (at least 10% of sites with PPD \leq 3mm bleed on probing and no BoP at 4 mm sites).

As soon as there is BoP at a site with 4 mm PPD or there are PPD \geq 5 mm, the patient is classified as 'currently unstable'.

While a discussion of the therapeutic implications of the above diagnoses is beyond the scope of this paper, it is recognised that these criteria are quite stringent. In particular, it should be noted that following initial periodontal treatment, resolution of increased probing depths takes time, and PPD \geq 5 mm at re-evaluation do not necessarily imply incomplete treatment. Even in the longer term, patients with 5–6 mm PPD without BoP may, in individual cases, be considered stable. This should be a matter of clinical judgement. However, as evident from retrospective studies in large Swiss cohorts, residual probing depths \geq 6 mm are associated with a markedly increased risk of further attachment loss and tooth loss.⁹

In the presented patient, periodontal treatment and maintenance had resulted in resolution of periodontal inflammation. There were no probing depths 5 mm or more, and BoP was limited to fewer than 10% of sites with PPD of 3 mm or less. Hence, the patient was classified as a periodontitis patient, who was 'currently stable'. However, designation as 'currently stable' does not mean that the proverbial foot can be taken off the pedal. Classification as stage IV,

grade C indicates severe periodontitis with high disease susceptibility. Smoking will likely have contributed to the periodontal tissue loss in this patient, but conversely, the fact that this risk factor has been successfully managed for many years bodes well for continued maintenance.¹⁰

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