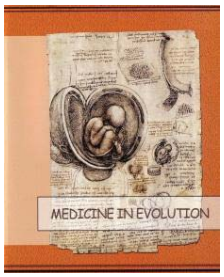
Fixed prosthetic treatment of patients with periodontitis – case report



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Abstract

Oral health as an integral part of general health. Prosthetic rehabilitation of patients with periodontal disease is often challenging and difficult. Restoring periodontal health is essential for successful prosthodontic rehabilitation.

Patients present to the dentist's office at different stages of periodontal disease: gingival retractions, periodontal abscesses, dental mobility. The relationship between the patient's periodontal situation and prosthetic treatment should be correlated with oral hygiene [1]. Treatment objectives for periodontal disease include control of infections, stopping disease progression, replacing missing teeth, correcting anatomic defects and maintaining periodontal health. Advances in technology and biomaterials have expanded the possibilities for aesthetic optimization in restorative dentistry.

A correct diagnosis and an appropriate treatment plan are key factors in prosthetic treatment in patients with periodontal disease.

Keywords: periodontal disease, prosthetic treatment, missing teeth.

INTRODUCTION

Periodontal disease is a major cause of pain, physiognomic and masticatory disorders and even tooth loss in adults. Also, representing a bacterial outbreak, it increases the risk of developing heart, kidney, digestive, respiratory diseases, etc. Without dental and periodontal health, general health is often compromised. Many systemic diseases give specific reactions in the oral cavity.

Periodontitis is an inflammatory disease caused by specific bacteria located in the oral cavity [2,3]. It has been classified in aggressive periodontitis and chronic periodontitis. It is one of the most serious dental diseases, affecting all age groups. It is also found in children and adolescents, at which it manifests as gingivitis, localized or generalized prepubertal periodontitis, juvenile periodontitis and periodontal diseases associated with systemic disorders [4].

The edentulous patient with periodontal disease is best managed by consulting a team of prosthodontist, periodontist and frequently includes endodontist, orthodontist and oral surgeon. Communication with the patient is also required for better treatment result.

In the case of patients with chronic marginal periodontitis, the treatment is complex and some precautions are needed regarding the pre- and pro-prosthetic, definitive prosthetic treatment and the materials used for prostheses. Pre-prosthetic periodontal preparation is essential for the success of prosthetic treatment using fixed prostheses [5,6]. In modern dentistry, this can easily be achieved when an interdisciplinary approach is applied [7,8].

Any patient whose periodontium has been affected will require rehabilitation of both periodontium and affected tooth structure. These patients present in different stages of evolution of periodontal disease depending on the physiognomic requirements, the socio-cultural situation, but especially the socio-economic conditions.

CLINICAL CASE REPORT

A 51-year-old woman addressed to the dental office, complaining of dental mobility, bleeding gums and chewing disabilities.

On radiological examination, orthopantomography reveals the appearance of generalized, vertical, uneven alveolar bone destruction, with approximate septal defects (Figure 1). Individual periodontal prognosis is bad for teeth 11, 12 and 21 because insertion loss has reached the root apex.

Figure 1. Orthopantomography of the patient

Several clinical procedures were performed during the hygienic phase in order to stop periodontal infection and to teach the patient how to maintain good oral hygiene. This included: patient's motivation and education on oral health, supragingival periodontal preparation with scalers and curettes, dental prophylaxis with toothbrush and prophylactic paste. It was also done subgingival periodontal preparation to entire mouth which included: non-surgical scaling and root planning with curettes and sonic-scaler machine to remove

subgingival irritants and disorganize adhered and non-adhered bacterial flora. A decontaminated root surface must be obtained to achieve new attachment. Once the plaque situation is firmly under control, even teeth with advanced destruction of the supporting tissues may be used as abutments. We prescribed Amoxicillin 500mg three times a day during seven days, as a complement to periodontal therapy.

We used a protocol for full mouth disinfection which consists of instrumentation of all periodontal pockets in two visits within 24 hours in combination with the adjunctive use of chlorhexidine mouthwash (Corsodyl) and gel (Glucosite) to disinfect any bacterial reservoirs in the oral cavity.

Before performing tooth extraction with poor periodontal prognosis, the teeth adjacent to the future frontal edentulous area were prepared, in order to achieve a temporary acrylic prosthesis (Figure 2). Temporary restoration is necessary during prosthetic treatment in patients with periodontal disease, by immobilizing the remaining teeth and ensuring dento-facial aesthetics (Figure 3).

Figure 2. Preparation of adjacent teeth for temporary prosthesis, and extraction of frontals with bad periodontal prognosis

Figure 3. Temporary fixed acrylic partial denture

After the reassessment period of two months, clinical parameters such as probing depth, clinical junction level, bleeding at probing, and the inflammatory clinical signs showed improvement.

As a definitive prosthetic treatment, it was decided to make a fixed metal-ceramic prosthesis (Figure 4). For the defect of excessive hard and soft tissue we used gingival-colored porcelain (Figure 5).

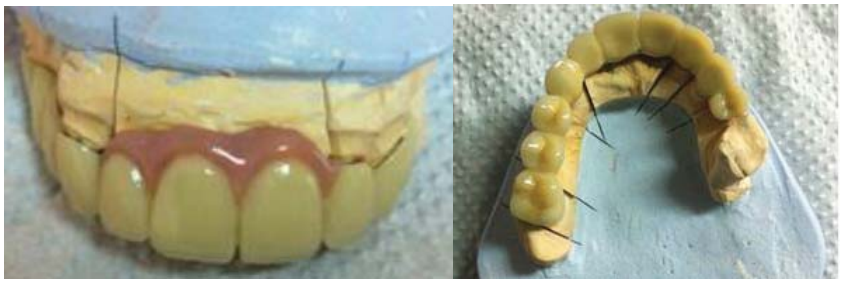

Figure 4. Partial fixed metal-ceramic prosthesis, front and occlusal view

DISCUSSIONS

The use of a systemic antibiotic as a complement to periodontal therapy has been extensively studied. Many studies demonstrated that patients treated this way present better clinical results than the ones who did not receive a systemic antibiotic [9-12]. Other studies indicates that the adjuvant use of systemic antibiotics to treat chronic periodontitis does not result in clinically significant improvements to patient outcomes compared with those achieved by root surface instrumentation alone [13-18]. Systemic antibiotics may be appropriate in the management of aggressive periodontitis as an adjunct to full-mouth scaling and root planning, and in conditions of rigorous hygiene [19].

During the initial therapy the aim is: the removal and temporary replacement of restorations that do not lead to good oral hygiene, the temporary replacement of teeth with a poor prognosis and temporary prosthetic planning [1].

For situations where subgingival margin is required, certain principles must be taken into account: sufficient width of keratinized gingiva, smooth restorative surfaces [20].

Another goal is to create or maintain a high standard of oral hygiene. It is necessary to explain to patients the oral hygiene techniques and the need for regular professional maintenance [1,20].

CONCLUSIONS

From a periodontal point of view, the SVI (stability, vitality, and integrity) rule of a tooth, are indications to keep it on the arch and to start regenerative therapy, even in a very compromised clinical situation.

Due to dental loss suffered by most patients with periodontitis, it is necessary to perform a prosthetic treatment to restore the functionality and aesthetics, thus improving quality of life. The complexity of the rehabilitation treatment depends on the effects produced by the periodontal disease.

The success in the treatment of this patient is the result of several elements: the patient's education and active participation in the treatment, the planning of a comprehensive treatment plan and its implementation by an interdisciplinary team: prosthetist and periodontist.

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