

Importance of Non-Surgical Therapy in Periodontal Disease: A Case Report

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Abstract

Periodontal therapy's primary goal is to eradicate the disease's underlying etiological agent. Periodontal therapy is divided into two types: nonsurgical and surgical. Periodontal nonsurgical therapy is still an important part of periodontal treatment. Simply performing scaling, root planning, and thorough periodontal debridement can improve the clinical signs and symptoms of periodontitis in the majority of cases. In this case, a 47-year-old female patient reported to Department of Periodontology complaining of gingival bleeding, halitosis and gingival enlargement. The patient noticed the problems 3-4 months back which were gradually increasing in severity. The patient was medically fit. In this case, a complete elimination of severe periodontal disease was achieved by scaling and root planning with a frequent maintenance visit without any surgical intervention in the patient.

Keywords: scaling, root planing, periodontitis, chlorhexidine, non-surgical periodontal therapy

Introduction

Periodontitis is a chronic inflammatory disease caused by plaque microorganisms that can lead to periodontal tissue inflammation and alveolar bone loss. If untreated, periodontitis increases the risk of loose teeth and subsequent tooth loss.[1] The two main classes of periodontal disease are gingivitis and periodontitis. Global epidemiological studies have shown a high prevalence of periodontitis in various countries including China, America, and Britain.[2] Periodontal surgery is often required in addition to initial treatment to completely remove local inflammatory stimulation and restore the normal appearance of periodontal soft and hard tissue. Sequential periodontal treatment, on the other hand, in patients with severe periodontitis usually necessitates a variety of periodontal surgeries and a high financial investment, which many patients cannot afford. Subgingival scaling and root debridement with periodontal endoscopy, on the other hand, have been shown in studies to have a similar therapeutic effect.

The main difficulty in treating periodontal disease is that bacteria cannot be completely removed from the oral cavity. Furthermore, the bacteria found in plaque are more resistant to antibiotics. Although plaque is clearly necessary for the onset of periodontal disease, the severity and extent of the disease are not entirely

explained by plaque quantity. Other factors, such as the host immune response and environmental factors, play a role in the disease's onset and progression. However, in patients with severe periodontitis, choosing an appropriate prosthetic treatment plan can be difficult when considering restoration of the denture deficiency, minimization of damage to the abutment teeth, and increasing the stability of the periodontal tissue. A recent study showed that fixed prosthodontic treatment in compliant patients is highly successful after 20 years of supportive periodontal care. [3]

In this case report, a patient is presented with stage IV/ grade chronic periodontitis who achieved a good treatment outcome following nonsurgical periodontal treatment.

Case Report

This is the case of a 47 years old female patient who presented with gingival bleeding, halitosis, and gingival enlargement. The patient noticed the problems 3-4 months back, which were gradually increasing in severity. The patient was medical fit and with no history of medication, systemic health seemed to be non-contributory to the periodontal disease, and there was no history of hormonal disturbances.

The intraoral examination revealed generalized inflammatory gingival enlargement with generalized deep periodontal pocket of 5-7 mm. Various grades of mobility were associated with respective teeth; Grade I with 11, Grade II with 32 and Grade III mobility were present with 31, 41 and 42, respectively along with horizontal bone loss. The case was diagnosed as chronic generalized severe periodontitis depending on the nature of the disease. Informed consent was obtained from the patient in the written form before starting the treatment.

Methodology

- Intraoral images obtained at the first visit showed a poor level of oral hygiene, a large amount of dental calculus, and obvious plaque retention as shown in Figure 1.
- At the beginning of treatment, the patient showed a desire to maintain her teeth and refused periodontal surgery. The therapeutic plan therefore consisted of non-surgical initial periodontal therapy, with supra- and subgingival scaling and root planing.
- Ultrasonic scaling was carried out with the help of ultrasonic scalers and immediate post scaling intraoral view was captured as shown in Figure 2.
- In the next visit, root planing was performed with curettes under local anesthesia as shown in Figure 3. The performed areas were irrigated with betadine solution.
- Comprehensive plaque control including flossing, the use of interproximal brush and 0.2% of chlorhexidine mouthwash was advised to the patient as a part of home care.
- Post-operative instructions were given and the patient was prescribed with antibiotics, analgesics and antimicrobials.
- The patients were recalled at regular intervals for re-evaluation and maintenance.
- Two weeks later, the patient had a professional plaque control session, which included monthly checks to reinforce oral hygiene processes and the use of plaque disclosing agents to make daily examinations easier.



Figure 1: Preoperative intraoral view with severe gingival enlargement and inflammation



Figure 2: Immediate post ultrasonic scaling view

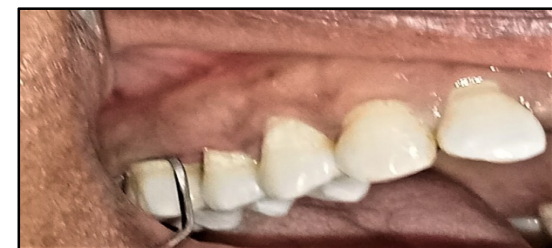
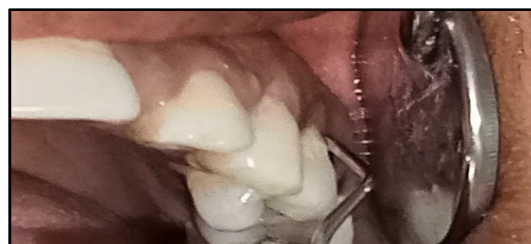


Figure 3: Root planing done with gracey curettes #11-12 and #13-14



Figure 4: Postoperative intraoral view after 3 months

Result and Discussion

The patients were recalled at regular intervals for re-evaluation and maintenance. 3 months follow-up of the patient showed complete resolution of inflammation, reduced gingival enlargement, probing depth reduction to 4 mm with no bleeding on probing and reduction in tooth mobility. The periodontal condition reverts back to normal only by efficient scaling and root planing and regular maintenance visit. The color of gingiva changed from reddish pink to physiologic pink, consistency changed from soft and edematous to firm and resilient as shown in Figure 4.

The basic goal of periodontal therapy is to preserve a functional natural dentition of the patient. With significant advances in diagnostic techniques and a better understanding of the etiopathogenesis of periodontal disease it became easy to understand periodontal disease.[4] Nonsurgical periodontal therapy is still considered as the gold standard to which other treatment methods are compared instead of various advancement in the treatment modalities. The cleaning of the root surface in the prevention of periodontal disease was first recognized by Bunting.[5] Many clinical studies conducted in the past few decades have confirmed the effectiveness of the scaling and root planing in the treatment of periodontal disease.[6]

Nonsurgical mechanical therapy is typically done quadrant by quadrant or sextant by sextant. Recent research suggests that periodontal pathogens can be found in places other than periodontal pockets, such as the tongue, mucosa, saliva, and tonsils, and that translocation can occur between these ecological niches as well as between individuals.[7] If such a translocation occurs, it seems logical that an already treated pocket could be reinfected by periodontal pathogens colonizing other untreated pockets or extra dental domains during conventional mechanical therapy. This would have a negative impact on the treatment's outcome. If we want to improve the effectiveness of nonsurgical mechanical therapy, such a revelation would necessitate a shift in our approach. As a result, a full mouth approach to non-surgical therapy has recently been proposed.

Conclusion

The proper control of the periodontal infection and the achievement of a stable periodontal status are critical for the long-term success of the treatment of complex cases with severe chronic periodontitis. Despite the fact that advanced diagnostic and treatment modalities have emerged in the management of aggressive periodontitis, traditional techniques continue to be popular. Non-surgical periodontal therapy is still the gold standard for periodontal therapy, despite the various treatment options available. The most important aspect of nonsurgical periodontal therapy is that it is noninvasive and can be used in situations where surgical intervention is not possible.

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