ISSN (O):2395-2822; ISSN (P):2395-2814

Non-Surgical Periodontal Therapy- A Noteworthy Contribution towards Oral Health.

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Received: June 2018
Accepted: July 2018

ABSTRACT

Long time ago it was proposed that oral hygiene status of a patient is the key to the general health status of the patient. Synergistic-like effect occurs when the balance in the periodontal attachment apparatus is being disturbed that may include; apart from periodontal other dental treatment procedures that have added to dental vocabulary as in perio-endo, perio-ortho, perio-prostho, perio-os. In the recent past the literature has interlinked periodontal status with above mentioned categories. Of late, relationship between Periodontology and Psychiatry has been studied. A patient's smile and esthetics does have an impact on psychological status and also on their personality. This following case series provides a glimpse of patient's chief complaint that was attempted to treat in a non-surgical manner.

Keywords: Scaling and root planing, non-surgical therapy, maintenance.

INTRODUCTION

American Academy of Periodontology defines "Periodontitis" as inflammation of the supporting tissues of the teeth. Usually a progressively destructive change leading to loss of bone and periodontal ligament. An extension of inflammation from gingiva into the adjacent bone and ligament.[1]

Field of medicine and dentistry has seen tremendous progress through advancement in science and technology, but the treatment that lay foundation for the success of other treatment procedures must not be overruled. Non-surgical periodontal therapy forms the basic necessity prior to any other treatment procedure patient has to undergo.

Non-surgical therapy includes plaque control, supra- and sub-gingival scaling, root planing, and the adjunctive use of chemical agents.[2]

This paper tries to create awareness among people and clinicians, the significance of non- surgical periodontal therapy.

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Each patient treated were strictly informed about the follow up regimen and upon an informed consent, treatment was commenced.

CASE REPORT 1

An 18 year old male patient walked in to Department of Periodontology complaining of receded gingival margins, bleeding and inflammation with lower anteriors. The patient noticed the changes approximately 8 months ago. He was systemically healthy with no history of medicaments and adverse habits.

On intraoral examination, it was observed that patient had tongue thrusting habit along with interdental spaces between teeth. Moreover local factors (plaque and calculus) were noticed [Figure 1] and patient revealed use of horizontal scrub technique for brushing. Hence, the complaint of gingival recession with which the patient reported to our department seemed to be multifactorial.

Patient was explained about the treatment plan that will include scaling and root planing (SRP) which will remove local etiologic agents and comprehensive plaque control that included use of interproximal brush and 0.2% of chlorhexidine mouthwash, was advised to the patient as part of home care. Patient was explained about importance of orthodontic treatment for which he got convinced for further treatment following scaling

and root planing. Post 7 days, patient reported to our department with healed gingiva. [Figure 2].

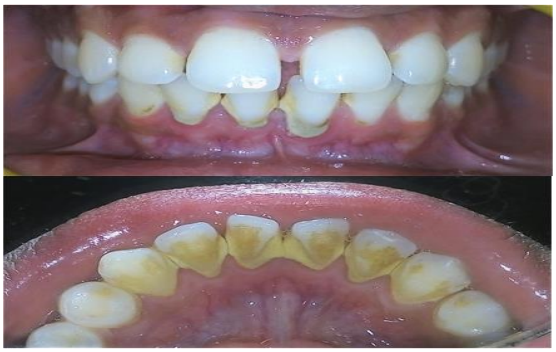


Figure 1: Pretreatment intraoral view on labial & lingual aspect

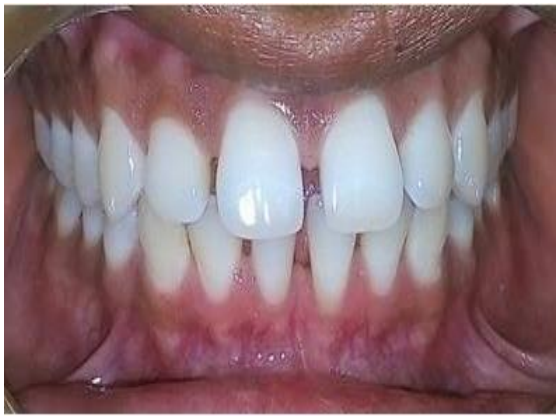
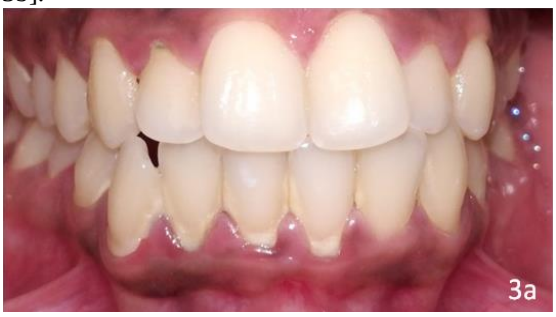


Figure 2: 1 week post SRP

CASE REPORT 2

22 year old female patient studying medicine reported to Department of Periodontology who was worried about the gingival architecture with lower anteriors.

On intraoral examination, it was observed that patient had crowding with lower anteriors along with presence of local factors. [Figure 3a] On inquiry it was noted that patient uses a wrong brushing technique. As in the previous case, patient was explained about the treatment plan (which also included orthodontic treatment) and oral hygiene regimen. After a week patient was overwhelmed seeing gingival architecture back to normal. [Figure 3b].



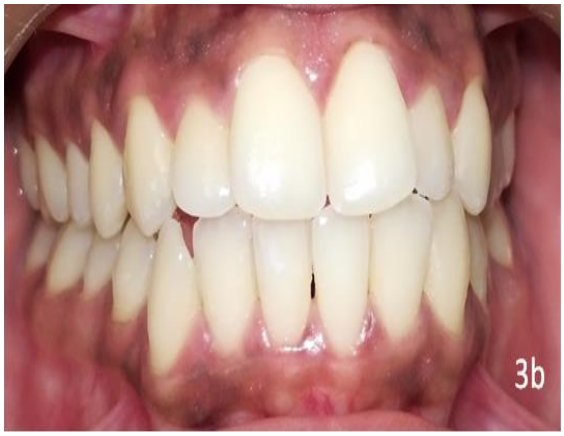


Figure 3: Pre and Post SRP.

CASE REPORT 3

45 year old female patient came with a chief complaint of bleeding from gums and bad breath, to Department of Periodontology. On intraoral examination of the patient [Figure 4] it was noticed that periodontal attachment apparatus was disturbed with pathologic migration with maxillary and mandibular incisors, class III gingival recession according to Miller's with teeth present in maxillary arch and with 33-41 and the case was diagnosed as generalized moderate chronic periodontitis.

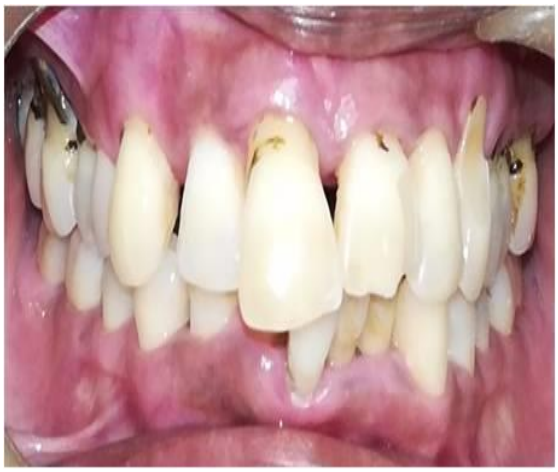


Figure 4: Pre-treatment

As in previous cases, patient was explained about the treatment plan that will include scaling and root planing which will remove local etiologic agents and comprehensive plaque control that included use of interproximal brush and 0.2% of chlorhexidine mouthwash, was advised to the patient as part of home care. In addition to that patient was educated about the maintenance and supportive periodontal care. On completion of scaling and root planing some more clinical features were identified that was hidden behind the calculus deposits. [Figure 5]

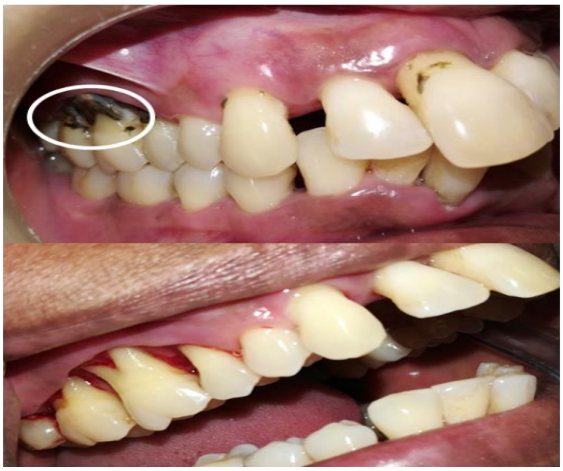


Figure 5: SRP exposed the defect that was present under the veil.

CASE REPORT 4

37 year old female patient came to Department of Periodontology with a chief complaint of inflamed and receded gingiva of lower anteriors and inflammation in 1st quadrant. The patient noticed the changes approximately a year ago and was systemically healthy with no history of medicaments and adverse habits.

On intraoral examination, it was observed that patient had interdental spaces between teeth; gingiva was inflamed with blunt and rolled out margins with respect to lower anteriors. Moreover local factors (plaque and calculus) were noticed [Figure 6] and upon inquiry, patient gave details of brushing technique as combination of vertical and horizontal scrub.

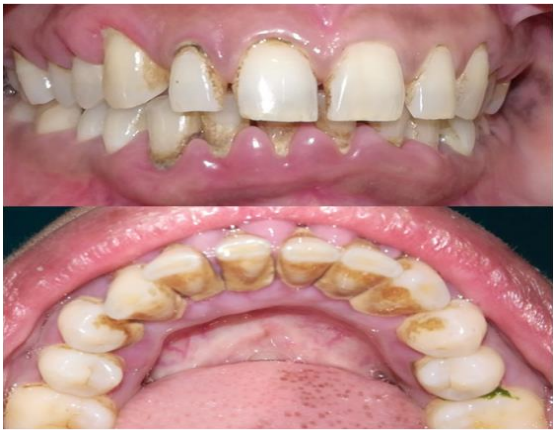


Figure 6: Anterior and Linguo-occlusal view

Patient was explained about the treatment plan that will include scaling and root planing which will remove local etiologic agents and comprehensive plaque control that included use of interproximal brush and 0.2% of chlorhexidine mouthwash, was advised to the patient as part of home care. Also the patient was educated about the maintenance and supportive periodontal care.

Thereafter patient reported once in every week post scaling and root planing and after a month it was observed that the inflammation subsided. Though inflammation was minimal with 1st quadrant, 16 showed a probing of 8mm mesially with intrabony defect that was corrected with surgical exploration.

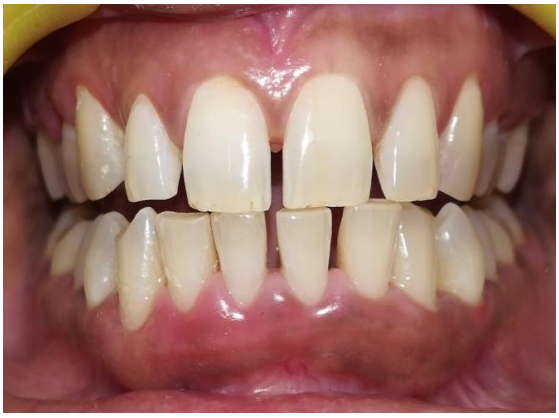


Figure 7: 1 week post SRP

DISCUSSION

Non-Surgical therapy mainly involves mechanical debridement of plaque and calculus down to the root of the affected teeth, and is considered the "gold standard" initial treatment for periodontitis.[3,4] Its importance cannot be outweighed.

Kiser in 1994, proposed three stages of treatment: (i) Debridement (disruption and removal of biofilm), (ii) Scaling (removal of mineralized deposits); (iii) Root planing (remove contaminated cementum and dentin).

Various terms to describe this phase of treatment are

- Initial periodontal therapy
- Hygienic phase
- Anti- infective phase
- Cause- related therapy
- Phase I therapy
- Etiotrophic phase
- Preparatory Therapy

***O'Leary*[5] suggested the following**

Scaling: instrumentation to remove all supragingival, uncalcified and calcified accretions and all gross subgingival accretions.

Root planing: instrumentation to remove the microbial flora on the root surface or lying free in the pocket, all flecks of calculus and all contaminated cementum and dentin.

Most studies involving either short- or long-term nonsurgical therapy demonstrate a decrease in inflammation via decrease in bleeding points and probing pocket depth and maintenance or improvement of clinical attachment levels.[6]

Loma Linda studies are probably the only study in the periodontal literature that evaluates the separate effects of oral hygiene and scaling and root planing (S/RP). Most studies evaluated the combined effect. *Cercek et al*., 1983 evaluated the separate effect of: 1) supragingival plaque control; 2) subgingival plaque control; 3) S/RP.[4]

Walmsley et al. in 1988, demonstrated that a plaque front is reduced 6 to 8 times when a water coolant is used during ultrasonic activation.[7]

Leon & Vogel compared hand scaling with ultrasonic debridement of furcations and found ultrasonic debridement to be significantly more effective in microbial plaque removal in class II and class III furcations.[8]

Ministry of Health Malaysia discussed frequency of scaling. Guideline proposed recommends that supportive periodontal treatment should be provided every three to six months. It may include several potential therapy options, including supra- and sub-gingival removal of plaque and calculus, and treatment choices were recommended to be made according to the patient's specific characteristics.[9]

With advances in research, the non-surgical periodontal therapy has broadened to include various modalities apart from scaling and root planing such as Host Modulation Therapy (HMT), local delivery of antimicrobials, subgingival irrigators, LASERS, probiotics, Ozone therapy, Photodynamic Therapy.

In these case series, scaling and root planning was performed using hand and ultrasonic instruments.

Case 1-3 described above provides an idea on creeping attachment which is a phenomenon that was described by Goldman as the "post-operative migration of the gingival marginal tissue in a coronal direction over portions of a previously denuded root".[10]

Case 4 depicts unraveling of hard/soft tissue defect on thorough scaling and root planing.

Time to time photographs should be taken that will help in patient education and indirectly motivating them to emphasize on the maintenance of oral hygiene. Moreover, in the current scenario of evidence based dentistry; photographs will help in proper documentation.

CONCLUSION

SRP is generally associated with improvements in periodontal outcomes across a variety of adult patient populations, and statistically significant responses to one round of SRP treatment.

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How to cite this article: Mani A, Sekharamantri A, Sachdeva S, Mani S, Anarthe R. Non-Surgical Periodontal Therapy- A Noteworthy Contribution towards Oral Health. Ann. Int. Med. Den. Res. 2018; 4(5): DE08-DE11.

Source of Support: Nil, **Conflict of Interest:** None declared