

Clinical Study of Failures in Periodontal Therapy

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ABSTRACT

Background: The goal of periodontal therapy is to restore and maintain the health and function of the periodontium and natural dentition for a lifetime. This therapy has evolved over many years to include nonsurgical phase of therapy and subsequent surgical treatment followed by periodic maintenance therapy. The main objective is to study the failures in periodontal therapy. **Methods:** It is a hospital based study. It was conducted at Dental department of LTBRKM Gov. Medical College; Jagdalpur Chattisgarh. The study was carried out for a period of 6 months from June to Nov 2017. Total number of cases included in this study was 30. Permission from Institutional Ethics Committee was obtained. From each and every patient included in the study, initially informed individual consent was taken. **Results:** 6.7% cases were seen in 30 – 35 years of age group, 16.6% of cases were seen in 36 – 40 years of age group, 26.6% of cases were seen in 41 – 50 years of age group and 50% of cases were seen in 46 – 50 years of age group. Only 2 cases were failed in periodontal therapy due to age of the patient, 3 cases were of poor maintenance, 5 cases are due to systemic diseases, 10 cases were due to smoking habit, 1 case of poor healing potential, 8 cases of local factors like plaque and only one case of psychological component. **Conclusion:** Careful attention to a few important points can improve the success rate of periodontal therapy. Periodontal health is achieved with a combination of treatment and regular periodontal maintenance care.

Keywords: Failures, Periodontal therapy, Risk factors.

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INTRODUCTION

The goal of periodontal therapy is to restore and maintain the health and function of the periodontium and natural dentition for a lifetime. This therapy has evolved over many years to include an initial or so-called nonsurgical phase of therapy and subsequent surgical treatment followed by periodic maintenance therapy.^[1]

Treatment failures appear to occur more frequently in Periodontology than in other dental disciplines, possibly because; the periodontist works in a field characterized by the presence of plaque. Not only does the amount of plaque play a role, but the pathogenicity of the microorganisms and the immune status of the patient, his or her "resistance," are also factors. Inappropriate patient selection, incomplete diagnostic procedures, errors in diagnosis or prognosis, treatment difficulties, unsupervised healing, and the absence of maintenance therapy may be causes of such failures. The most common cause of failure in periodontal treatment is the inability of the patients to keep the bacterial population of the crevicular area at a

permissible level. A regular recall program can largely prevent such failures.^[2]

To discuss treatment failures, the concept of successful periodontal therapy must be defined first. In the past, treatment was only considered successful when there was radical elimination of pockets; today the concept of successful treatment has been defined more modestly with clinical parameters like absence of bleeding on probing, reduction in probing pocket depth, gain in clinical attachment level (CAL) and or reduction in tooth mobility. After completion of comprehensive periodontal therapy, persistence of residual periodontal pockets, presence of bleeding and or pus on probing, increase in loss of attachment or persistence of tooth mobility would be criteria's to categorize a periodontal case as failure.^[3]

The determination of prognosis is frequently hampered by an incomplete or cursory examination, resulting in a faulty interpretation of the oral findings and invariably leading to an improperly planned treatment. Factors commonly affecting the prognosis are failure to identify the hopelessly involved tooth and failure to accurately assess supporting bone involvement on the basis of the clinical and radiographic findings, prognosis for individual tooth was determined at each examination.^[4]

If human beings were efficient self-starters and could be highly motivated with minimum instruction, then the dentist's task would be simple. Most of the dentist's emotional energy is spent in

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coping with fearful patients and in securing their cooperation. Failures in motivation of dental home care are due to problems of the patient, family patterns, disturbed patient, and fantasies about treatment.^[5]

Immune system plays an important role in periodontal disease progression and its response to the periodontal therapy. Numerous changes occur at immunity level of patients as age progresses. Elderly people as a group respond more slowly and less robustly to immunogenic challenges than do young mature adults, resulting in a suboptimal protective immunity. The complexity of the maintenance and recognition of antigens, cellular interactions and effecting protective immune responses throughout a lifetime by this highly dynamic system is overwhelming. The loss or decrease in function of one or more components of the system due to aging could result in no immunity, compromised immunity or inappropriate immunity.^[6]

MATERIALS & METHODS

It is a hospital based study. It was conducted at Dental department of LTBRKM Gov. Medical College, Jagdalpur Chattisgarh. The study was carried out for a period of 6 months from June to Nov 2017. The study included patients attending dental department. Total number of cases included in this study was 30. Detailed history of patient was taken like Name, Age, Sex, and Chief complaint, History of present illness, past medical history, past dental history, Personal history, and Oral hygiene measures.

Intra oral examination which includes hard tissue examination and Soft tissue examination. Under Hard tissue examination: Type of dentition, Number of teeth present, Notation, Caries, Missing, Filled Stains, Wasting disease, Occlusion, Food impaction etc. Examination of gingiva, complete periodontal status, Radiographic examination etc.

Inclusive Criteria

- Study included screening of all patients with periodontal problems.
- Patients willing to participate in the study.

Exclusive Criteria

- Patients with other than periodontal conditions.
- Patients not willing to participate in the study.

Statistical analysis

The obtained data will be compiled, analyzed and interpreted. The data analysis will involve an understanding the causes of periodontal therapy failures. Data will be analyzed through SPSS.

RESULTS

Total 30 cases included in the study. Out of 30 cases 6.7% cases were seen in 30 – 35 years of age group,

16.6% of cases were seen in 36 – 40 years of age group, 26.6% of cases were seen in 41 – 50 years of age group and 50% of cases were seen in 46 – 50 years of age group.

Table 1: Age wise Distribution of Cases.

Age	Cases	Percentage
30 - 35 Years	2	6.7%
36 -40 Years	5	16.6%
41 - 45 Years	8	26.6%
46 - 50 Years	15	50%
Total	30	100%

Table 2: Sex wise Distribution of Cases

Sex	Cases	
	No Of Cases	Percent
Males	18	60%
Females	12	40%
Total	30	100%

[Table 2] shows sex distribution of cases. Out of 30 cases 18 cases were males and 12 cases were of females, i.e. 60% of males' cases and 40% of female cases were seen.

Table 3: Reasons for failures in Periodontal Therapy

S. No	Failures in Periodontal Therapy	No of Cases	Percentage
1)	Age of the patient	2	6.7%
2)	Poor maintenance	3	10%
3)	Systemic diseases	5	16.6%
4)	Smoking(habits)	10	33.33%
5)	Poor healing potential	1	3.3%
6)	Local Factors(plaque retentive factors)	8	26.66%
7)	Psychological component	1	3.3%

Out of 30 cases only 2 cases were failed in periodontal therapy due to age of the patient, 3 cases were of poor maintenance, 5 cases are due to systemic diseases, 10 cases were due to smoking habit, 1 case of poor healing potential, 8 cases of local factors like plaque and only one case of psychological component.

DISCUSSION

Ramfjord reported maintenance or supportive periodontal therapy following active treatment is essential to achieve a successful outcome.

An acceptable recall program for patients who have been treated for periodontitis should include: Assessment of health status (systemic and oral), Education of the patient, Removal of plaque and calculus, Application of fluoride, Consideration of drugs and Re-treatment where indicated.^[7]

Socransky & Haffajee reported treatment can also affect host response, possibly by “vaccination” during mechanical debridement procedures or using anti-inflammatory or host-modifying local or systemic agents. Modification of host response affects the habitat and also affects the colonizing microbiota. Thus, the therapist can potentially affect

periodontal infections at several levels improving the possibility for long-term periodontal stability.^[8]

Checchi et al reported patients who are not on regular recall program subsequent to active treatment show obvious signs of recurrent periodontitis. It was found that patients who do not return for regular recall are at 5.6 times greater risk for tooth loss than compliant patients.^[9]

Cortellini et al showed that patients with irregular follow ups after successful regenerative therapy have a 50 fold increase in risk of probing attachment loss compared with those who are on regular recall visits.^[10]

Furuichi et al reported the mechanical procedures undoubtedly removed most organisms that colonized the tooth surface. Perhaps 90% or even somewhat higher proportions were removed. However, given the rapid multiplication rates of bacteria, it is not surprising that the majority of taxa examined returned to almost baseline levels at 3 months. Data in the literature suggest that the return to baseline total counts might occur within 4–8 days.^[11]

Wennstrom et al indicated that 9% to 13% of non-surgically treated sites demonstrated attachment loss 5 years after therapy. Furthermore, they found that 10% (4 of 42) of treated sites and 66% (4 of 6) of sites demonstrating new disease activity harbored *Actinomyces actinomycetem comitans*.^[12]

Lindhe and Nyman et al have suggested that the critical determinant of periodontal therapy is not the choice of treatment modality but is the detailed thoroughness of the root surface debridement and the patient's standard of oral hygiene. Given that exquisite root preparation is a major requirement for successful periodontal therapy.^[13]

Burgett et al found that patients who received occlusal adjustment as a part of periodontal treatment had a statistically greater gain in attachment level than those who did not receive an occlusal adjustment.^[14]

Palcanis reported the results of periodontal therapy with respect to tooth loss for 100 patients treated and maintained for 15-29 years in a periodontal practice. Overall, he reported that out of 832 teeth receiving surgical therapy, 131 (15.7%) were lost. For all treatment methods which involved a total of 2627 teeth, 259 (9.9%) were lost. Simple calculation reveals that out of 1795 teeth treated non surgically, 128 (7.1%) were lost. Such a comparison could be erroneously interpreted to indicate that fewer teeth could be expected to be lost after nonsurgical therapy. This would be incorrect because in any retrospective study, teeth with more active disease would be more likely to be treated aggressively by surgical means. Therefore, teeth at risk for surgical therapy were probably more susceptible to periodontal destruction and more resistant to any form of therapy.^[15]

CONCLUSION

Periodontal therapy is effective in slowing the destruction of the periodontium, and reducing tooth loss. Careful attention to a few important points can improve the success rate of periodontal therapy. Periodontal treatment without the benefit of maintenance appears to slow the progression of the disease when compared to the rate of progression of the disease in an untreated population. Periodontal health is achieved with a combination of treatment and regular periodontal maintenance care. Careful maintenance is as important as skillful original treatment, if periodontal health is to be maintained. Many of the known causes of periodontal therapy failures have been discussed; and it has been suggested that recognition and avoidance of these pitfalls will result in a greater percentage of success.

Ethical approval: The study was approved by institutional Ethics Committee.

REFERENCES

1. Pihlstrom BL, McHugh RB, Oliphant TH, Ortiz-Campos C. Comparison of surgical and nonsurgical treatment of periodontal disease. A review of current studies and additional results after 61/2 years. *J Clin Periodontol*. 1983; 10(5):524-41.
2. Rateitschak KH. Failure of periodontal treatment *Quintessence Int*. 1994; 25(7):449-57.
3. Jithendra KD, Bansali A, Ramachandra SS. Failures in periodontal therapy. *Bangladesh Journal of Medical Science* 2010; 9(4):193- 198.
4. Bradley RE. Periodontal failures related to improper prognosis and treatment planning. *Dent Clin North Am* 1972; 16(1):33-46.
5. Lefer L. Failures in motivation of dental home care. *Dent Clin North Am*. 1972; 16(1):3-11.
6. McArthur WP. Effect of aging on immunocompetent and inflammatory cells. *Periodontol* 2000. 1998; 16:53-79.
7. Ramfjord SP. Maintenance care and supportive periodontal therapy. *Quintessence Int*. 1993; 24(7):465-71.
8. Socransky SS, Haffajee AD. Dental biofilms: difficult therapeutic targets. *Periodontol* 2000. 2002; 28:12-55.
9. Checchi L, Montevecchi M, Gatto MR, Trombelli L. Retrospective study of tooth loss in 92 treated periodontal patients. *J Clin periodontol* 2002; 29(7):651-6.
10. Cortellini P, Pini-Prato G, Tonetti M. Periodontal regeneration of human infrabony defects (V). Effect of oral hygiene on long-term stability. *J Clin periodontal* 1994; 21(9):606-10.
11. Furuichi Y, Lindhe J, Ramberg P, Volpe AR. Patterns of de novo plaque formation in the human dentition. *J Clin periodontal* 1992; 19(6):423-33.
12. Wennström A, Wennström J, Lindhe J. Healing following surgical and non-surgical treatment of juvenile periodontitis. A 5-year longitudinal study. *J Clin periodontal* 1986; 13(9):869-82.
13. Lindhe J, Westfelt E, Nyman S, Socransky SS, Haffajee AD. Long-term effect of surgical/non-surgical treatment of periodontal disease. *J Clin periodontal* 1984; 11(7):448-58.
14. Burgett FG, Ramfjord SP, Nissle RR, Morrison EC, Charbonneau TD, Caffesse RG. A randomized trial of occlusal adjustment in the treatment of periodontitis patients. *J Clin periodontal* 1992; 19(6):381-7.

15. Palcanis KG. Surgical pocket therapy. Ann Periodontal 1996; 1(1):589-617.

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