

PERIODONTAL THERAPY : A CONSERVATIVE APPROACH

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INTRODUCTION :

Periodontal surgery has become a controversial topic in the last few years. Opinions range between the traditional view that scaling and oral hygiene acts as a pre-operative measure, that prepares the mouth for the ultimate healing, which will follow surgical intervention; to an alternative view, which embraces a concept of total non-surgical care. The most appropriate course usually lies somewhere between the two opposing views and for the general practitioner the main difficulty is knowing exactly what he should do for his patient in the light of the most recent knowledge. Should he continue to wait and assess before intervening surgically? (which may mean a worsening of the situation for the patient); or should he intervene at once? (and perhaps act hastily when continued scaling with monitoring would have been sufficient).

However significant attention has been given to non-surgical periodontal therapy, based primarily on longitudinal studies demonstrating success through clinical parameters.^{1,6,10} Conservative approach in periodontal treatment constitutes that phase in periodontal therapy that can be defined as plaque removal, plaque control, supra and subgingival scaling, root planing and the use of adjunctive chemical agents.

To date, the critical objective of periodontal therapy has been to halt disease progression. Hence the choice of procedure must be based on accurate and comprehensive data collection through assessment of inflammation, periodontal probing and radiographic interpretation. After establishment of the particular disease state, a treatment plan can incorporate procedures that deal with the primary causes and cofactors. This sequence of therapy provides decision-making steps as a check and balance system.

NON SURGICAL PERIODONTAL THERAPY PROCEDURES :

Gross debridement :

Gross debridement is the removal of all supragingival and as much subgingival plaque and calculus as feasible. Ultrasonic instrumentation is the preferred modality as previous studies have demonstrated its efficacy in removing calculus and microbial plaque. Water irrigation flushes the area, increasing visual acuity and removing debris, and consequently, use of the tooth brush would be the best instruction.⁹

Mechanical plaque control :

The patient must make an attempt to control periodontal inflammation by mechanically removing primarily supragingival plaque and

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to a more limited degree, subgingival plaque. Besides toothbrush the plaque control procedure is further aided by dental flossing of interproximal areas with normal papillary contour and by using proxa-brushes in a spaced dentition. The patient's meticulous and regular compliance is most important to achieve this goal.²

Chemical plaque control :

The role of medications as part of a treatment plan has increased in importance in recent years. A range of topically applied agents, mouth rinses and irrigants are available which are valuable in such plaque control programmes, for treating recurrent gingivitis as well as for post surgical rinsing and as aids in demonstrating to the patients, the feeling of a cleaner mouth. However convincing studies of a long lasting effect on attachment levels has not been substantiated because of their limited penetration and substantivity in deeper pockets. These irrigants seem to be effective in disrupting bacterial colonization and growth in shallow pockets. As such they are a valuable addition, since these can be used by patients from day to day as a home - care regime.^{3,8}

Keyes home-care regime was associated with deep pockets irrigation with baking soda/salt/peroxide combination. This technique could be used by professionals as a routine procedure to be followed after initial debridement, as it is effective in eliminating the anerobic bacterias and their endotoxins. However as a routine home-care method it did not meet with much success because patient's discomfort, due to gum irritation.⁷

Definitive debridement :

The objective of definitive scaling and root planing procedures is to achieve resolution of inflammation by treating the subgingival environment. Access to the subgingival microflora remains the critical limiting factor in effectiveness. Although the biological rationale for definitive debridement is the disruption and re-

moval of microbial plaque; it is also achieved by reducing the concentration of bacterial endotoxin on roots and achieving a sulcus free of inflammation with a long junctional epithelium rather than a true connective tissue attachment. It is one of the most technically difficult procedures and the operator must be extremely competent and skillful enough to accomplish thorough root planing and subsequent maximum resolution of inflammation.

Subgingival drug delivery system :

This consists of the subgingival placement of tetracycline containing fibers following prophylaxis. Current studies, indicates this approach to be encouraging by way of enhanced reattachment. Furthermore the use of laminin, fibronectin and tetracycline application over root surfaces selectively tends to favour connective tissue attachment rather than epithelial cells. The development of resorbable subgingival delivery systems are reported to be more enhancing reattachment procedures.⁴

Antimicrobial therapy:

This is considered to play limited role in the non-surgical periodontal therapy except in the treatment of localised juvenile periodontitis and some cases of refractory periodontitis.

Antibiotics have a place in the cases of refractory and rapidly progressing periodontitis but the main rationale for their use after scaling and root planing in adult type of periodontitis is by way of suppression of subgingival pathogens for longer duration.

Certain groups of drugs are capable of altering the host factors in favour of the host. Tetracycline is seen to act as a collagen stabilizer by its anticollagenase effect, thereby strengthening the host resistance against the tissue, destruction associated with periodontal disease. Similarly NSAID (non steroidal anti inflammatory drugs) after the effects of prostaglandins in favour of the host.

Reevaluation :

As important as initial data collection is to determining a nonsurgical treatment plan, a post debridement therapy data collection session is critical to establish the degree of resolution and to determine if additional therapy is necessary mainly in the form of surgery for access. At least 4-6 weeks interval is necessary after debridement to establish the response of treatment, which is directly proportional to the severity of the conditions.

Keyes et al have described a method of periodontal therapy based on patient applied hypertonic salts, in an oxidative antiseptic for controlling plaque micro-organisms.⁷ The prime objective of this modality is to gain access and visibility to such areas which are situated deep within intrabony and radicular location. However, with these approaches post operative healing as generally seen, seems to take place by the development of long junctional - epithelium as revealed by the studies, such a type of healing may be clinically satisfactory in the operators eyes but no doubt, falls short of the goals of truly ideal reattachment.^{5,11}

WHEN IS SURGERY APPLICABLE?

One of the most difficult problem in the treatment of periodontal disease arises when the patient appears unable to practise plaque control to a level that is considered sufficient to control disease. When post-operatively the following three important features are noted; it provides a definite indication for surgery.

1. Good plaque control.
2. Deep pockets.
3. Persistent bleeding.

Thus it can be safely said that surgery is indicated when disease is continuing despite good levels of plaque control.

CONCLUSION :

If factors associated with successful treatment are accommodated (i.e. meticulous root debridement, compliance with personal and

professional oral hygiene regimens), then the potential for succesful non-surgical care is greater then previously thought and should be given increased consideration a definitive mode of therapy for patients with periodontitis. Any decision regarding surgery should be taken after assessment of the longterm prognosis towards achieving better post-operative remodelling of periodontal architecture. But when surgical intervention is indicated there is no substitute to it.

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