

## Treatment planning for patients with periodontal diseases



## **The treatment may be divided into 4 phases:**

- 1. Systemic phase of therapy.
- 2. Initial phase (cause related therapy).
- 3. Correction phase (additional therapeutic measures).
- 4. Maintenance phase (supportive periodontal therapy).

- **Treatment goals:**
- 1. Reduction or resolution of gingivitis (bleeding on probing, BOP).
- 2. Reduction in probing pocket depth (PPD).
- 3. Elimination of open furcations in multi-rooted teeth.
- 4. Absence of pain.
- 5. Individually satisfactory esthetic & function.

- BOP measurement: a periodontal probe inserted to the bottom of gingival crevice or periodontal pocket and move gently along the root surfaces, if bleeding occurs within 30 seconds the site give score (1).



- PPD measurement: is the distance from the gingival margin to the most apical penetration of the periodontal probe insert into the gingival crevice or periodontal pocket without pressure or force and measure in mm.



## **Systemic phase of therapy includes:**

**1)** Precautions for protecting the general health of the dental team and other patients against infectious & contagious diseases e.g. infectious hepatitis, HIV infection, Herpes simplex virus & TB.

**2)** Protection of patient's health against harmful systemic effects of routine therapy. the complications: Infection, bleeding, cardiovascular incidents, allergic reactions.

- **Infection:** patients with cardiac disease and disorders involving the endocardium are susceptible to infective endocarditis as a result of blood –borne infection. Antibiotic prophylaxis 1hour before dental procedure e.g. Amoxicillin, Clindamycin and Azithromycin with a high standard of oral and dental health is reserved for those Patients.
- **Bleeding:** patients on anticoagulant drugs (e.g. Salicylate), liver cirrhosis or high alcohol consumption, blood dyspraxia or hemophilia are at a risk for bleeding complications, thus it is recommended to render treatment in small segments.
- **Cardiovascular incidents:** they are often treated with anticoagulant drugs (e.g. Aspirin, indomethacin) may develop bleeding problems. Antihypertensive, diuretic, anti-arrhythmic may increase hypotensive episodes. Therefore, keep procedures short and control anxiety & pain with those patients.

- **Allergic reaction and drug interactions:**

The most common allergic reactions are allergies to local anesthesia (Novocain), Penicillin, Sulfa derivatives and Iodine. No new drugs should be prescribed as part of periodontal therapy without understanding their interference with the effectiveness of the drugs that the patient is already taking (e.g. Antidepressants) or alcohol, or create hazardous or synergistic action with such drugs.





**3)** All attempts should be made to decrease the effects of systemic disease such as blood disorders and diabetes mellitus before the periodontal treatment is initiated. Patients taking cortisone over a long period of time may yield a reduced rate of fibroblastic activity and hence a lowered resistance to infection during healing. It has to be realized that periodontal treatment may have a beneficial effect on the systemic health of the patient as well.

**4)** Controlling anxiety & low pain threshold:

**a.** Valium to be taken the night before, in the morning, and half an hour before extensive or surgical procedure.

**b.** Apply local anesthesia to control pain.

**c.** post-operative analgesics such as Voltaren, Ponstan may be prescribed.



**5)** Smoking constitutes the second most important risk factor in the etiology & pathogenesis of periodontal diseases after poor oral hygiene standards.



**6)** Treatment of emergencies:

Such as acute necrotic ulcerative gingivitis or periodontitis, periodontal abscess, acute endodontic periodontal lesion and extraction of hopeless teeth.

- **Objectives of initial phase (cause-related therapy):**

This is accomplished by:

- 1. Motivating the patient to combat dental disease (patient information).
- 2. Giving the patient instructions on proper oral hygiene techniques (self performed plaque control methods).
- 3. Scaling & root planning.
- 4. Antimicrobial therapy (local or systemic).
- 5. Control or elimination of additional retention factors for plaque such as: correction of restorative and prosthetic irritational factors & excavation of caries and restoration.
- 6. Occlusal therapy.
- 7. Orthodontic treatment.

- **Motivation:** detailed information about periodontal disease, its etiological factors, symptoms, consequences, prognosis the relationship between the presence of plaque & calculus in the mouth. Mechanical plaque control demands active participation of the individual subject and the establishment of proper oral homecare habits. patient's positive attitude to treatment may have a positive long term effect on his/hers tooth cleaning efforts.



- **Disclosing agent:** since dental plaque is white, sometimes it cannot easily be identified, particularly if it is not thick enough & /or the observer is not well trained. A disclosing agent is a chemical compound (tablets or solution) that stains dental plaque such as erythrosine , fuschsine or a fluorescein.



- **Self-performed plaque control:**

Supragingival plaque is exposed to saliva and to the natural self-cleansing mechanisms existing in the oral cavity .the regular use of personal oral hygiene measures is essential to the dental and periodontal health because plaque is the major etiological factor in periodontal disease thus plaque removal reduce symptoms of inflammation, inhibit the progression of the disease & inhibit the formation of supra & subgingival calculus which is plaque retentive factor.

- **Brushing:** different cleaning devices have been used in different cultures (toothbrushes, chewing sticks, chewing sponges.....etc.), the most widespread means of actively removing plaque at home is tooth brushing, and the efficacy of brushing with regard to plaque removal is dependent on:
  - The design of brush.
  - The skill of the individual using the brush.
  - Frequency & duration of brushing.



- **Tooth brushes requirements:**

- ✓ It must be Nylon, Soft-medium strength ,rounded ends filaments.
- ✓ Frequency: brushing twice a day is recommended, especially at night, just before going to bed.
- ✓ Duration: brush for a minimum of 2 minutes ,covering all area of the oral cavity.
- ✓ toothbrush is to be replaced every 2-3 months, because a worn toothbrush with frayed filaments loses resilience & is less effective in removing plaque than new brush.



**Dentifrices:** facilitating plaque removal and applying agents to the tooth surfaces for therapeutic or preventive reasons. The most important active ingredients in toothpaste are:

- ✓ **-fluoride:** prevent caries,
- ✓ **-desensitizing agent:** alleviate sensitivity of exposed dentin.
- ✓ **-anti-plaque agents;**
  - a. triclosan; antibacterial agent.
  - b. stannous fluoride.
  - c. chlorhexidine: plaque inhibiting agent.
- ✓ **-anti-calculus agent:** reduces the formation of supragingival calculus.



- ✓ **-bicarbonate** : reduce the acidity of dental plaque.
- ✓ **-cleaning & polishing agents**: these abrasive agents should have particle size & shape which facilitate plaque & stain removal without producing hard & soft tissue damage.
- ✓ **-Whitening agents**: whiten stained teeth.
- ✓ **-Detergents**: sodium lauryl sulfate has antimicrobial & plaque inhibitory properties.