Prognosis In Periodontics And Treatment Plan

The prognosis is a prediction of the course, duration and outcome of a disease based on the pathogenesis of the disease and the presence of risk factors for the disease . It is established after the diagnosis is made and before the treatment plan is established.

Types of prognosis

Excellent Prognosis

- No bone loss

- Excellent gingival condition

- Good patient cooperation

- No systemic / environmental factors

Good Prognosis

-Adequate remaining bone support

- Adequate possibilities to control etiologic factors and establish a maintainable dentition

-Adequate patient cooperation

-No systemic / environmental factors or if present well controlled

Fair Prognosis

- Less than adequate remaining bone support

- Some tooth mobility

- Grade I furcation involvement

- Acceptable patient cooperation

- Limited systemic / environmental factors.

Poor Prognosis

- Moderate to advanced bone loss

- Tooth mobility

- Grade I and II furcation involvement

- Doubtful patient cooperation

- Presence of systemic / environmental factors

Questionable Prognosis

- Advanced bone loss

- Grade II and III furcation involvements

- Tooth mobility

- Presence of systemic / environmental factors

Factors affecting prognosis :

Overall factors:

PATIENT'S AGE

For two patients with comparable levels of remaining connective tissue

Attachment and alveolar bone, the prognosis is generally better in the older of the two. For the younger patient, the prognosis is not as good because shorter time frame in which the periodontal destruction has occurred because the younger patient suffers from an aggressive type of periodontitis , or disease progression may have increased due to systemic disease or smoking. The younger patient would be expected to have a greater reparative capacity, the occurrence of much destruction in a short period exceed any naturally occurring periodontal repair .

Disease severity

- Prognosis for horizontal bone loss depends on the height of the existing bone.

- Angular defects - if the contour of the existing bone & the number of osseous walls are favorable, there is an excellent chance that therapy could regenerate bone to approximately the level of the alveolar crest.

Plaque control

Bacterial plaque is the primary etiologic factor associated with periodontal disease. Therefore effective removal of plaque on a daily basis by the patient is critical to the success of periodontal therapy and to the prognosis.

Smoking

Patients should be informed that smoking affects not only the severity of periodontal destruction but also the healing potential of the periodontal tissues . As a result, patients who smoke do not respond as well to conventional periodontal therapy never smoked. Therefore the prognosis in

patients who smoke and have slight-to moderate periodontitis is generally fair to poor. In patients with severe periodontitis, the prognosis may be poor to hopeless However, smoking cessation can affect the treatment outcome and therefore the prognosis. Patients with slight to moderate periodontitis who stop smoking can upgraded to a good prognosis, whereas those with severe periodontitis who stop smoking may be upgraded to a fair prognosis.

Systemic disease or condition

The patient's systemic background affects overall prognosis in several ways. For example, the prevalence and severity of periodontitis is significantly higher in patients with type l and type II diabetes than in those without diabetes and that the level of control of the diabetes is an important variable in this relationship. Well-controlled diabetics with slight-to-moderate periodontitis who comply with their recommended periodontal treatment should have a good prognosis . Conditions that limit the patient's performance of oral procedures (e.g., Parkinson's disease) also adversely

affect the prognosis. Newer automated oral hygiene devices such as electric toothbrushes may be helpful for these patients and improve their prognosis.

Genetic factors

Genetic factors may play an important role in determining the nature of the host response. Genetic polymor-phisms in the interleukin-1 (IL-1) genes, resulting in increased production of IL- 1ß have been associated with a significant increase in risk for severe, generalized, chronic periodontitis.

Local factors

Calculus

The microbial challenge presented by bacterial plaque and calculus is the most important local factor in periodontal diseases.

Subgingival restorations

Subgingival margins may contribute to increased plaque accumulation, increased inflammation and increased bone when compared with supragingival margins. Furthermore, discrepancies in these margins (e.g., overhangs) can negatively impact the periodontium. subgingival margins has a poorer prognosis than tooth with well-contoured, supragingival margins.

Anatomic factors

Short, tapered roots with large crowns, cervical enamel projections (ceps) and enamel pearls, intermediate bifurcation ridges, root concavities, and developmental grooves - predispose periodontium to disease .

-Teeth with short, tapered roots and relatively large crown usually has poor prognosis .

-CEPs are flat, ectopic extensions of enamel extending beyond the normal contours of the cementoenamel junction .

- Enamel pearls are larger, round deposits of enamel that can be located in furcations or other areas on the root surface .

-Developmental grooves – create accessibility problems plaque-retentive area - difficult to instrument .

Root concavities exposed through loss of attachment can vary from shallow flutings to deep depressions. They appear more marked on maxillary first premolars, the mesiobuccal root of the maxillary first molar. Although these concavities increase the attachment area and produce a root shape that may be more resistant to torquing forces but they are inaccessible to clean.

Relationship between prognosis and diagnosis

Factors such as patient age, severity of disease, genetic susceptibility and presence of systemic disease are important criteria in the diagnosis of the condition and in developing a prognosis and treatment plan.

Prognosis of different periodontal diseases:

1. Dental plaque induced gingival disorder:

Gingivitis associated with dental plaoue only:

Plaque-induced gingivitis is a reversible disease that occurs when bacterial plaque accumulates at the gingival margin.

Plaque-induced gingival diseases modieied by systemic factors

The inflammatory response to bacterial plaque at the gingival margin can be influenced by systemic factors such as endocrine-related changes associated with puberty, menstruation, pregnancy, and diabetes and the presence of blood dyscrasias . Therefore the long-term prognosis for these patients depends not only on control of bacterial plaque, but also on control or correction of the systemic factor(s).

Plaque-induced gingival diseases modified by medications

Gingival Diseases associated with medications include drug-influenced gingival enlargement, often seen with phenytoin, cyclosporin, nifedipine, and oral contraceptive- associated gingivitis. Gingival enlargement, plaque control alone does not prevent development of the lesions, and surgical

intervention is usually necessary to correct the alterations in gingival contour.

2.Non-plaque-induced gingival lesions

Prognosis is dependent on elimination of the source of the infectious agent . Dermatologic disorders such as lichen planus, pemphigoid, pemphigus vulgaris, erythema multiforme, and lupus erythematosus manifest in the oral cavity as atypical gingivitis .

Prognosis for patients with periodontitis :

Chronic Periodontitis

Is a slowly progressive disease associated with well-known factors . For (slight-to moderate periodontitis) the prognosis is generally good.

Aggressive periodontitis:

In localized advanced diseases, prognosis can be good if the lesions are treated with debridement, local and systemic antibiotics, and regenerative therapy .

Generalized form Fair, poor or questionable prognosis due to generalized interproximal loss, poor antibody response and thus poor response to conventional periodontal therapy.

Periodontitis as manifestation of systemic disease

Periodontitis associated with hematologic disorders such as leukemia and acquired neutropenia. Periodontitis associated with genetic disorders such as papilllon-lefevre syndrome

- Systemic diseases alter the ability of the host to respond to the microbial challenge presented may affect the progression of disease and thus downgrade the prognosis.

Necrotizing Periodontal Diseases :

- Necrotizing ulcerative gingivitis (NUG)

- Necrotizing ulcerative periodontitis (NUP).

In NUG - primary predisposing factor - bacterial plaque.

Disease - complicated by presence of secondary factors such as acute psychological stress, tobacco smoking, poor nutrition leading to immunosuppression.

With control of both bacterial plaque and secondary factors prognosis (NUG) – will be good although tissue destruction is not reversible.

THE TREATMENT PLAN

After the diagnosis and prognosis have been established, the treatment is planned . Treatment plan is the blueprint for case management.It includes all procedures required for the establishment and maintainence of oral health . Treatment plan involves the following decisions .

Teeth to be remained or extracted .

Pocket therapy techniques, surgical or non surgical, that will be used .

The use of implant therapy . The need for temporary restoration . Final restoration that will be needed after therapy,

The need for orthodontic consultation .

Endodontic therapy .

Extracting or preserving a loose tooth:

Treatment is directed to establishing and maintaining the health of the periodontium throughout the mouth rather than to spectacular efforts to tighten loose teeth . Removal, retention, or temporary interim) retention of one or more teeth is a very important part of overall treatment plan .

***A tooth should be extracted when any of the following occurs:**

-It is so mobile that function becomes painful .

-It can cause acute abscesses during therapy .

-There is no use for it in the overall treatment plan.

***A tooth can be retained temporarily, postponing the decision to extract it until after treatment, when any of the following occurs :**

-It maintains posterior stops and may be functional after implant placement in adjacent Areas. When the implant is exposed, these teeth can be extracted.

-In anterior esthetics areas, a tooth can be retained during periodontal therapy and removed when treatment is completed .