Mini Review
Published: 08 Apr, 2019

Journal of Dentistry Forecast

Gingival Recession – An Overview

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Abstract

Gingival recession is characterized by the displacement of the gingival margin apically from the cementoenamel junction. Gingival recession can be generalized or localized and be associated with one or more surfaces. Gingival recessions have multifactorial etiology and are often associated with non-caries cervical lesions. Different methods have been used to treat gingival recession and cover the exposed root. Gingival recession should be thoroughly assessed and evaluated in order to offer the most suitable management

Keywords: Gingiva; Recession; Root Coverage; Aesthetic

Introduction

Gingival recession is characterized by the displacement of the gingival margin apically from the cementoenamel junction. Gingival recession can be generalized or localized and be associated with one or more surfaces [1].

The CEJ is not an easy structure to locate clinically but at sites of recession the CEJ will be supra gingival and therefore more easily detectable.

People are often anxious about gingival recession for reasons such as poor esthetics, fear of tooth loss and dentinal hypersensitivity.

In a study conducted in US with 9689 subjects, it was found that, in 58% of persons between ages 30-90 yrs, gingival recession of 1mm or greater was prevalent. The prevalence and extent of gingival recession increased with age [2].

Recession is often found as a wedge shaped defect in cervical area of one or more teeth [3] and most commonly located on buccal surfaces [4].

Animal studies suggest that a relationship exists between the age of experimental animal and extent of apical migration though not between the presence of gingivitis and the recession. These findings supports a hypothesis given I 1920s, that physiological apical migration of the junctional epithelium occurs with age. Such a hypothesis fits in with continuous passive eruption theory that physiologic recession results from an apical migration of JE of teeth to compensate the occlusal wear [5].

Aetiology

Gingival recession is mostly associated with combination of predisposing factors described below:

Local plaque retention factors

- **Calculus:** A relationship has been revealed between gingival recession and the supra and sub gingival calculus in young adults without access to prophylactic dental care [6].
- **High frenal attachment:** This may impede the access for plaque removal or potentially, though rarely, by causing direct pull on marginal gingiva [7].
- **Restorative dentistry:** Sub gingival restoration is an important factor, which may increase plaque accumulation, gingival inflammation and alveolar bone loss [8].

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Received Date: 27 Jan 2019
Accepted Date: 04 Apr 2019
Published Date: 08 Apr 2019

Citation: Borkar P, Gattani D, Uike S. Gingival Recession – An Overview. J Dent Forecast. 2019; 2(2): 1021.

Table 1: Percentage of root coverage by various periodontal procedures [16].

Periodontal Procedures	Root Coverage Percentage	Duration Of Studies Reviewed (Years)	Study and Source
Laterally Positioned Pedicle Graft	36-67	1-3	Guinard and Caffesse (1978) And Caffesse And Guinard (1980)
Coronally Positioned Flaps	67-98	1-3	Caffesse And Guinard (1980), Allen and Miller (1989) and Harris (1994)
Free Gingival Grafts	43-84	1-3	Langer and Langer(1985) and Bouchard and colleagues (1994)
Connective Tissue Grafts	65-85	1-5	Harris (1997)and Nelson(1986)
Guided Tissue Regenreration	48-87	1-2	Genon 1994) and colleagues and Harris(2002)
Combination Of Connective Tissue Graft And Coronally Positioned Flaps	88-98	1-4	Wennström and Zucchelli and The American Academy of Periodontology (1996)

Mechanical trauma

- **Tooth brushing:** Traumatic mechanical tooth brushing and its effects have been studied by many investigators with general agreement that vigorous or incorrect use of the toothbrush can produce recession. Recession due to tooth brushing was characteristically localized on facial surfaces and frequently "V" shaped, often occurring in association with tooth abrasion [9].

- **Malocclusion:** In case of retroclined upper anterior teeth, there can be direct trauma to labial gingivae of lower anterior teeth or the palatal gingivae of the upper anterior teeth. This may cause stripping and recession of gingiva [10].

- **Tooth position:** The position in which the tooth erupts through the alveolar process affects the amount of gingiva that will be established around the tooth. If the tooth erupts close to mucogingival line, then there may be very little or no keratinised tissue labially and localised gingival recession may occur [5].

Anatomic factors

- Gingival recession may be associated with the sites that have a developmental absence of bone [11].

- Anatomical factors that have been related to recession include fenestration and dehiscence of the alveolar bone, abnormal tooth position in the arch, aberrant path of eruption of the tooth and individual tooth shape. All those anatomical factors are interrelated and may result in an alveolar osseous plate that is thinner than normal and that may be more susceptible to resorption [12].

Classification

Since the presentation of gingival recession varies widely in the population, classification systems have been established to describe it in a better way. Several classifications have been proposed in literature to facilitate the diagnosis of gingival recessions.

They are as follows:

- Sullivan and Atkins (1968)
- Mlinek (1973)
- Liu and Solt (1980)
- Bengue (1983)
- Miller (1985)
- Smith (1990)
- Nordland and Tarnow (1998)
- Mahajan (2010)
- Cairo et al. (2011)
- Rotundo et al. (2011)
- Ashish Kumar and Masamatti (2013)
- Prashant et al. (2014) [13].

Miller's Classification is still the most widely used of all the classification systems. It is based on a morphological evaluation of the injured periodontal tissues and could be useful in predicting the final amount of root coverage following a free gingival graft procedure.

Class I: Marginal tissue recession, which does not extend to the mucogingival junction (MGJ). There is no periodontal loss (bone or soft tissue) in the inter-dental area, and 100% root coverage can be anticipated.

Class II: Marginal tissue recession, which extends to or beyond the MGJ. There is no periodontal loss (bone or soft tissue) in the inter-dental area, and 100% root coverage can be anticipated.

Class III: Marginal tissue recession, which extends to or beyond the MGJ. Bone or soft tissue loss in the interdental area is present or there is a malpositioning of the teeth, which prevents the attempting of 100% of root coverage. Partial root coverage can be anticipated. The amount of root coverage can be determined presurgically using a periodontal probe. The probe is placed horizontally on an imaginary line connecting the tissue level on the midfacial of the two teeth on either side of the tooth or teeth exhibiting recession. Root coverage can be anticipated to that level.

Class IV: Marginal tissue recession, which extends to or beyond the MGJ. The bone or soft tissue loss in the interdental area and/or malpositioning of teeth is so severe that root coverage cannot be anticipated [14].

Treatment Options

Varieties of regenerative procedures have the potential to correct gingival recession defects via augmentation of the width and height of keratinized or attached gingiva. The ultimate goal of root coverage procedures should be complete coverage of the recession defect with a pleasing color and tissue blend between the treated area and adjacent tissues, thereby achieving both biologic and esthetic success.

Root coverage techniques

1. Pedicle soft tissue grafts

A. Rotational flaps

1. Laterally positioned flap
2. Double papilla flap

B. Advanced flaps

1. Coronally positioned flap

2. Semilunar flap

Free soft tissue grafts

C. Nonsubmerged grafts

1. Free gingival graft

A. One stage

B. Two stage (Free gingival grafts + Coronally positioned flap)

D. Submerged grafts (Sub epithelial Connective Tissue Graft)

1. Connective tissue graft + Laterally positioned flap

2. Connective tissue graft + Double papilla flap

3. Connective tissue graft + Coronally positioned flap

4. Envelope technique

5. Tunnel approach

Additive treatments

E. Non resorbable membrane barriers

I. Resorbable membrane barriers

F. Root surface modification agents

G. Enamel matrix proteins. (15)

Various authors reviewed controlled clinical trials to assess the outcome of gingival grafting (Table 1).

Conclusion

Gingival recession is a common multifactorial condition, which can be easily seen in population with minimum access to dental care. Management of gingival recession and its sequel is based on a though assessment of etiological factors and the degree of involved tissues. The treatment of gingival recession can be accomplished with a variety of different procedures. The combination of CTG with a CPF, however, has been shown to demonstrate the highest success. GTR also can be used to treat recessions, particularly when patients are reluctant to consent to providing palatal gingiva donor sites.

References

1. Smith RG. Gingival recession: reappraisal of an enigmatic condition and a new index for monitoring. J Clin Periodontol. 1997; 24: 201-205.
2. Albandar JM, Brunelle JA, Kingman A. Destructive periodontal disease in adults 30 years of age and older in the United States, 1988-1994. Journal of periodontology. 1999; 70: 13-29.
3. Sangnes G, Gjermo P. Prevalence of oral soft and hard tissue lesions related to mechanical tooth cleaning procedures. Community Dentistry and Oral Epidemiology. 1976; 4: 77-83.
4. Löe H, Ånerud Å, Boysen H. The natural history of periodontal disease in man: prevalence, severity, and extent of gingival recession. Journal of periodontology. 1992; 63: 489-495.
5. Tugnait A, Clerehugh V. Gingival recession—its significance and management. Journal of dentistry. 2001; 29: 381-394.
6. van Palenstein Helderman WH, Lembariti BS, Van der Weijden GA, Van't Hof MA. Gingival recession and its association with calculus in subjects deprived of prophylactic dental care. Journal of clinical periodontology. 1998; 25: 106-111.
7. Trott JR, Love B. An analysis of localized gingival recession in 766 Winnipeg High School students. The Dental practitioner and dental record. 1966; 16: 209-213.
8. Björn AL, Björn HI, Grkovic BL. Marginal fit of restorations and its relation to peridontal bone level. I. Metal fillings. Odontologisk revy. 1969; 20: 311-321.
9. Gillette WB, Van house RL. Ill effects on improper oral hygiene procedures. JADA. 1980; 10: 476-480.
10. Houston WJ, Stephens CD, Tulley WJ, Foster ME. A textbook of orthodontics. Wright. 1992.
11. Löst C. Depth of alveolar bone dehiscences in relation to gingival recessions. Journal of Clinical Periodontology. 1984; 11: 583-589.
12. Alldritt WA. Abnormal gingival form. Proc R Soc Med. 1968; 61: 137-142.
13. Jain S, Kaur H, Aggarwa l R. Classification systems of gingival recession: An update. Indian J Dent Sci. 2017; 9: 52-59.
14. Pini-Prato G. The Miller classification of gingival recession: limits and drawbacks. J Clin Periodontol. 2011; 38: 243–245.
15. Bouchard P, Malet J and Borghetti A. Decision making in esthetics: root coverage revisited. Periodontology 2000. 2001; 27: 97-120.
16. Kassab MM, COHEN RE. Treatment of gingival recession. The Journal of the American Dental Association. 2002; 133: 1499-1506.