Volume 07, Issue 03 (May-June 2024), PP 01-07 **www.ijmsdr.org**
ISSN: 2581-902X

International Journal of Medical Science and Dental Research

Classifications of Gingival Recession- A Review

Dr. Hemalatha. D.M [1], Dr. Vishnu Sri Priya [2], Dr. Jilu Jessy Abraham[3], Dua Fathima[4], E. Sneha [5]

[1](*Assistant Professor, Department of Periodontology, Mahe Institute of Dental sciences and Hospital, Mahe, India)*
[2](*Assistant Professor, Department of Periodontology, Mahe Institute of Dental sciences and Hospital, Mahe, India)*
[3] *(Reader, Department of Periodontology, Mahe Institute of Dental sciences and Hospital, Mahe, India)*
[4](*Final year student, Department of Periodontology, Mahe Institute of Dental sciences and Hospital, Mahe, India)*
[5](*Final year student, Department of Periodontology, Mahe Institute of Dental sciences and Hospital, Mahe, India)*

Abstract: Gingival recession is defined as "displacement of marginal tissue apical to the Cementoenamel junction(CEJ) [1].Various classification has been proposed to classify gingival recession Classification of gingival recession is an important factor for correct understanding and determining of diagnosis, prognosis, and treatment planning for root coverage of the exposed root surface. Recent evidence has raised many questions on the use of currently popular classification system[2].The purpose of this systemic review is to assess various classification systems in the light of the current scientific literature[2].The occurrence and severity of the gingival recession present considerable differences between populations[3] . To prevent gingival recessions from from occuring, it is essential to detect the underlying etiology[3] This is fairly common clinical condition, research indicates it present in at least one or more tooth surfaces in 23% of U.S adults between 30 to 90 years of age . This paper reviews various causes and classification based on their clinical presentation. The prevalence, extent, severity of gingival recession increase with age, and this condition is more prevalent among males. The severity of recession is determined by the actual position of the gingiva and not by its apparent position From 1985 to till date, Miller's classification system is the most frequently used and popular classification system[2].This paper reviews etiology, classification and conclusion.

Keywords – *Cementoenamel junction, etiology, classification, gingival recession, mucogingival junction*

I. INTRODUCTION

It is the apical migration of the gingival margin to the cementoenamel junction which exposes the root surfaces.[4]It is frequently observed in adult subjects. Gingival recession is the subjection of the root surface due to the gingival margin's advancement to the cementoenamel junction .Recession is probably multifactorial in etiology[3]. Gingival recession can be related to abrasion and/or cervical wear, decay due to the subjection of the root region to the oral surroundings, increased accumulation dental plaque and dental hypersentivity. Recession

refers to the location of the gingiva rather than to its condition. Receded gingiva can be inflamed, but it may be normal except for its position. Recession may be localized to one tooth or to a group of teeth or it may be generalized throughout the mouth. [5]

.

II. ETIOLOGY

Mainly it is due to anatomical elements like the thickening gingiva biotype and underlying bone .Absence of sufficient keratinized gingiva and the frenal pull. Supragingival and subgingival calculus because of inadequate dental care. Hard toothbrush associated with recession. Tooth which close to the mucogingival line and tooth movement by orthodontic forces are associated with greater risk of gingival recession. Improperly designed partial dentures causing gingival trauma and subgingival restoration with increased margins can lead to plaque accumulation inducing recession .Topical cocaine implementation will cause gingival erosion and ulceration .The prevalence of gingival recession is higher among smokers than non-smokers.

III. CLASSIFICATION:

1. SULLIVEN AND ATKINS

1st classification was proposed by Sulliven and Atkins in 1960.They classify recession into four morphologic categories.

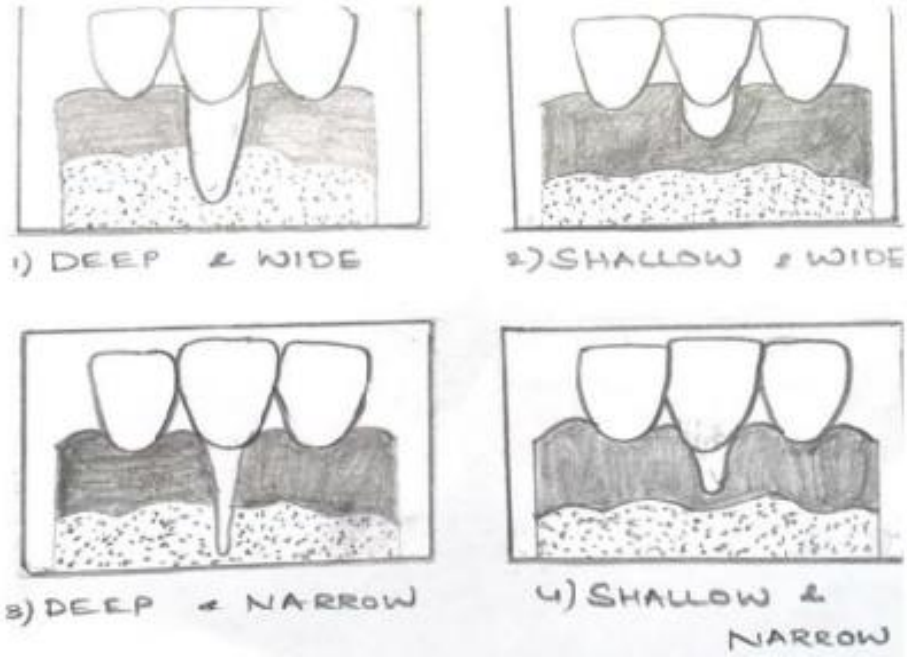
1. Shallow –narrow

2. Shallow-wide

3. Deep-narrow

4. Deep-wide

This classification even though simple and open interpretation of the examiner and interexaminer variability and is therefore not reproducible. [6]



2. MILLER'S CLASSIFICATION {1985}

Miller in 1985 proposed four classes of marginal tissue recession which are based on the level of gingival margin with respective to the mucogingival junction and the underlying alveolar bone[1].

CLASS	FEATURES
CLASS I	Marginal tissue recession does not extend beyond the mucogingival junction, with no loss of interproximal tissue, 100% root coverage is expected.
CLASS II	Marginal tissue junction that extend to or beyond the mucogingival junction ,with no loss of interproximal tissue;100% root coverage is expected
CLASS III	Marginal tissue recession extends to or beyond the mucogingival junction, with some loss of interproximal tissue or tooth rotation. The interproximal bone is still coronal to the apical extent of the recession ;only70% root coverage
CLASS IV	Marginal tissue recession extends to or past the mucogingival junction ,with severe loss of interproximal tissue or tooth rotation ;less than 50% root coverage is expected

3. SMITH CLASSIFICATION (1990)

He proposed an index for recession that contains 2 digit separated by a dash. The first one denotes the horizontal and the second digit denotes the vertical component of a site of recession

• Score 0 - No clinical evidence of root exposure.

• Score 1 - No clinical evidence of root exposure and there is also a subjective awareness of dentinal hypersensitivity in response to air blast is reported, and/or there is clinically detectable exposure of the CEJ for up to 10% of the estimated mid-mesial to mid-distal distance.

• Score 2 - Horizontal exposure of the

CEJ more than 10% but not exceeding 25% of the estimated mid-mesial to mid-distal distance.

• Score 3 - Exposure of the CEJ more than 25% of the mid-mesial to mid-distal distance but not exceeding 50%

• Score 4 - Exposure of the CEJ more than 50% of the mid-mesial to mid-distal distance but not exceeding 75%

• Score 5 - Exposure of the CEJ more than 75% of the mid-mesial to mid-distal distance up to 100%.[6]

4. MAHAJAN CLASSIFICATION (2010)

A modified classification of gingival recession

• Class I: Gingival recession defect not extending to the MGJ.

• Class II: Gingival recession defect extending to the MGJ/ beyond it.

• Class III: Gingival recession defect with bone or soft tissue loss in the interdental area malpositioning up to cervical 1/3 of the root surface and/or of the teeth.

• Class IV: Gingival recession defect with severe bone or soft tissue loss in the interdental area greater than cervical 1/3 of the root surface and/or severe malpositioning of the teeth.

Prognosis as per Mahajan's classification:

1) Best: Class I and Class II with thick gingival profile

2) Good: Class I and Class II with thin gingival profile

3) Fair: Class III with thick gingival profile

4) Poor: Class III and Class IV with thin gingival profile.

This modification still does not include all clinical conditions. For example, a tooth with gingival recession not extending up to MGJ but with interdental soft and hard tissue loss can neither be placed in Class I nor in Class III since there is no mention of involvement of MGJ in Class II. [6]

5. MLINEK CLASSIFICATION (1973)

“Shallow narrow" as being<3 mm in both dimensions. "Deep wide" Defects as being >3 mm in both dimensions. [9]

6. LIU AND SOLT CLASSIFICATION (1980)

Visual recession

Is measured from cemento-enamel junction to the soft tissue margin.

Hidden recession

Refers to the loss of attachment within the pocket i.e., apical to the tissue margin. [6]

7. NORLAND AND TARNOW CLASSIFICATION (1998)

Normal:

interdental papilla fills embrasure space to apical extent of the interdental contact point/area. [6]

CLASS 1

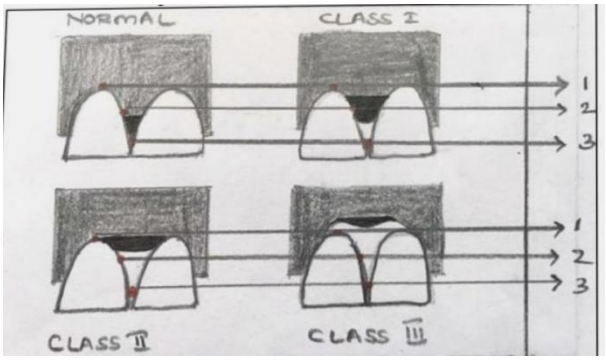
Tip of interdental papilla lies between the interdental contact point and most coronal extent of interdental CEJ (space between interproximal CEJ is not visible).[6]

CLASS 2

Tip of interdental papilla lies at or apical to interproximal CEJ but coronal to apical extent of facial CEJ [6]

CLASS 3

The tip of interdental papilla lies level with or apical to facial CEJ [6]



8. FRANCESCO CEAIRO CLASSIFICATION

Recession type1 (RT1)

Gingival recession with no loss of interproximal attachment. Interproximal CEJ was clinically not detectable at both mesial and distal aspect of the tooth [5]

Recession type 2(RT2)

Gingival recession associated with loss of interproximal attachment. The amount of interproximal attachment was (measured from the interproximal CEJ to the depth of the interproximal CEJ) was less or equal to the buccal attachment loss (measured from the buccal CEJ to the depth of buccal pocket). [5]

Recession type 3(RT3)

Gingival recession associated with loss of interproximal attachment. The amount of interproximal attachment loss was higher than the buccal attachment loss (measured from the buccal CEJ to depth of the buccal pocket). [5]

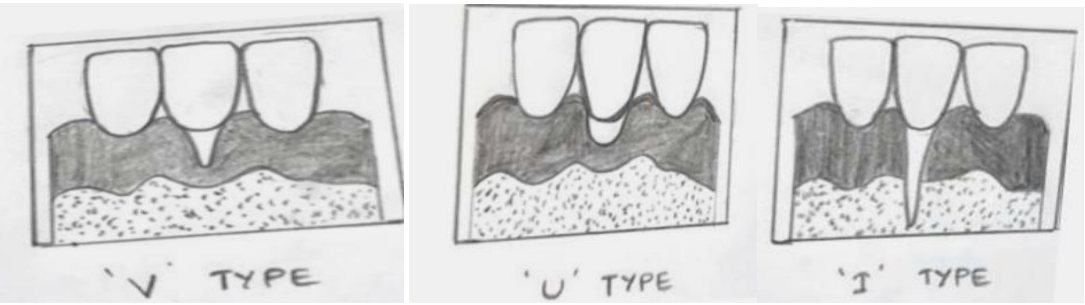
9. BENGUE CLASSIFICATION (1983)

Classified the recessions according to the Coverage prognosis:

. U-type - poor prognosis

. V-type - fair prognosis

. I-type - good prognosis. [6]



10. CAIRO CLASSIFICATION (2011)

Gingival recession based on the Assessment of CAL at both buccal and interproximal sites.

Type 1: Gingival recession with no loss of interproximal attachment. Interproximal CEJ was clinically not Detectable at both mesial and distal aspects of the tooth.

Type 2: Gingival recession associated with loss of interproximal attachment. The amount of interproximal attachment Loss (measured from the interproximal CEJ to the depth of the interproximal Pocket) was less than or equal to the Buccal attachment loss (measured from the buccal CEJ to the depth of the buccal Pocket)

Type 3: Gingival recession associated with loss of interproximal attachment. The amount of interproximal attachment Loss (measured from the interproximal CEJ to the depth of the pocket) was Higher than the buccal attachment loss (measured from the buccal CEJ to the Depth of the buccal pocket) [6]

IV. Conclusion:

There are a variety of classifications for gingival recessions. However each classification has its own advantages and limitations. No classification is complete and fulfils all criteria. Further studies continue to develop more classifications for the ease to classify gingival recessions

References

[1.] Kumar A, Masamatti SS. A new classification system for gingival and palatal recession. J Indian Soc Periodontol. 2013 Mar;17(2):175-81. doi: 10.4103/0972-124X.113065. PMID: 23869122; PMCID: PMC3713747.

[2.] Mahajan A, Asi KS, Rayast D, Negi M. Decision-making in classifying gingival recession defects – A systematic review. Natl J Maxillofac Surg. 2019 Jul-Dec;10(2):206-211. Doi: 10.4103/njms.NJMS_71_18. Epub 2019 Nov 12. PMID: 31798257; PMCID: PMC6883887.

[3.] Mythri S, Arunkumar SM, Hegde S, Rajesh SK, Munaz M, Ashwin D. Etiology and occurrence of gingival recession – An epidemiological study. J Indian Soc Periodontol. 2015 Nov-Dec;19(6):671-5. Doi: 10.4103/0972-124X.156881. PMID: 26941519; PMCID: PMC4753713.

[4.] Pradeep K, Rajababu P, Satyanarayana D, Sagar V. Gingival recession: review and strategies in treatment of recession. Case Rep Dent. 2012;2012:563421. Doi: 10.1155/2012/563421. Epub 2012 Oct 2. PMID: 23082256; PMCID: PMC3467775.

[5.] Newman, M. and Carranza, F. (2006) Carranza's Clinical Periodontology. 10th Edition, Saunders Co., Lindo

[6.] Mani A, James R. Classifications for gingival recession: A mini Review. Galore International Journal of Health Sciences & Research. 2018; 3(1): 33-38.