World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(REVIEW ARTICLE)

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Assessment of various treatment modalities with recent advancements in management of gingival recession: A scoping review

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World Journal of Advanced Research and Reviews, 2022, 14(03), 487–497

Publication history: Received on 13 May 2022; revised on 17 June 2022; accepted on 19 June 2022

Article DOI: https://doi.org/10.30574/wjarr.2022.14.3.0568

Abstract

This article gives information regarding various etiological factors that can lead to recession, the pathogenesis behind the recession, under which type it can be classified, the diagnostic criteria for recession, how to assess the root coverage, rationale for the necessary treatment with suitable non-surgical and surgical treatment options, concluding with post-operative care which has to be given to the patients after surgical procedures.

Keywords: Gingival Recession; Mucogingival Junction; Pedicle Graft; Soft Tissue Grafts; Guided Tissue Regeneration

1. Introduction

Gingival recession is an immense problem affecting individuals of all age group which primarily affects the aesthetic in this modern and sophisticated world. It is more commonly seen on the labial/buccal aspects of the teeth and it is one of the most common aesthetic concern associated with the periodontal tissues. Gingival recession is exposure of the root surface resulting from migration of the gingival margin apical to the cemento–enamel junction [1]. The level of recession is measured by the distance between the CEJ and gingival margin. The gingival recession often leads to the formation of black triangle which is referred to as the exposure of root surface, appears like spacing between the teeth where the dental papilla has lost causing major aesthetic problem of concern and requires arduous effort for its management [2]. The aim of this chapter is to summarize the various classification and treatment modalities for the gingival recession.

2. Aetiology of gingival recession [3]

2.1. Anatomical factors

Tooth malposition, Path of tooth eruption, Tooth shape, Profile, and position in arch, alveolar bone dehiscence, muscle attachment and frenal pull.

2.2. Pathological factors

Periodontal disease and treatment, Iatrogenic restorative and operative treatment, Improper oral hygiene methods (e.g: toothbrushing, floss, interproximal brush), other self-inflicted injuries (e.g: oral piercing)

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3. Pathogenesis [4]

Gingival recession can be caused due to many inflammatory or non-inflammatory etiological factors such as trauma or bacterial infection and can also be due to physiological result of tissue ageing and bone resorption and/or incorrect position of teeth in the dental arch.

The pathogenesis in the formation of gingival recession can be caused by the patient himself due to improper toothbrushing, improper flossing, oral piercing, or due to some iatrogenic factors as a result of orthodontic treatment, improper prosthetic restorations and occlusal relationships.

In trauma induced gingival recession, these etiological factors acts on the surface of the gingiva on the healthy oral epithelium causing abrasion of gingival epithelium. The inflammation begins in the area where the connective tissue that lies between connective epithelium and the oral epithelium. The external traumatic force causes irritation, if it continues, then the irritation from the secondary inflammatory process around the trauma adds up and the gingival connective tissue is affected directly and gingival ulcer is formed. Upon affecting the entire thickness of the gingival connective tissue, the onset of loss of clinical attachment occurs and, as a result, the root surface is exposed. This pathogenic mechanism referred to as centripetal, as the pathway to destruction is from outside to in.

In bacterial-induced gingival recession, an inflammatory response in the connective tissue is seen in between the oral epithelium and the sulcular epithelium which is caused by the subgingival bacterial biofilm. If the gingival phenotype is thin, then the subgingival bacterial plaque causes the inflammatory process in the connective tissue of the gingiva. As a periodontal pocket is formed, as the gingival margin loses support from the underlying connective tissue and progresses apically from the cemento-enamel junction with clinical attachment loss. Thus individuals with a thin periodontal phenotype are more prone to the formation of gingival recessions than thick periodontal biotype individuals. This pathogenic mechanism is referred to as centrifugal, as the pathway of destruction is inside-out.

4. Classification [5]

There are various classification that have been proposed for the gingival recession.

- 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).

4.1. *Sullivan's and Atkins* (1968) [6] classified recession into four categories.

- Shallow – Narrow.
- Shallow – Wide.
- Deep – Narrow,
- Deep – Wide

4.1.1. Drawbacks [7]

This classification is not reproducible, although it is simple, and it is subjected to open interpretation of the examiner and inter-examiner variability.

4.2. *Mlinek et al* (1973) [6] classified recession as

- Shallow-narrow clefts as being less than 3 mm in both dimension

- Deep-wide defects as being greater than 3 mm in both dimensions.

4.2.1. Drawbacks [7]

The horizontal measurement landmarks cannot be specified as variable measurement may be present at variable distances.

4.3. *Liu and Sol* (1980) [8] classified marginal tissue recession

- Visible: Visible recession is the clinically observable root measured from the cementoenamel junction (CEJ) to the crest of the soft tissue margin
- Hidden: Hidden recession is the depth of the sulcus or pocket as measured from the soft tissue margin to the epithelial attachment.

4.3.1. Drawbacks [8]

This classification was theoretically valid but not clinically as it does not discuss the prognosis of visible and hidden recession it focuses mainly on attachment loss than visible recession, it fails to provide information about the condition in which CEJ was absent.

4.4. *Bengue et al.* (1983) [5] classified the recessions according to the coverage prognosis

- U-type-poor prognosis
- V-type-fair prognosis
- I-type-good prognosis.

4.4.1. Drawbacks [8]

This classification lacks scientific support and it does not support its use though it was simple.

4.5. *Miller* classification (1985) [5]

- 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 interdental 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 interdental 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. Presurgically, using a periodontal probe the amount of root coverage can be determined.
- 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.

4.5.1. Drawbacks of miller classification [5]

- In Miller's Class I and Class II classification it is difficult to identify MGJ.
- In Miller's Class III and IV recession, the important criteria to categorize the recessions are interdental bone or soft tissue loss. It has not specified the amount and type of bone loss.
- The cases, which has marginal recession and interproximal bone loss that does not extend to MGJ cannot be classified either in Class I because of interproximal bone or in Class III because gingival margin is not extended till MGJ.
- The difference between Classes III and IV is based on the position of the gingival margin of the two adjacent teeth. Class III and Class IV can be identified if there are adjacent teeth; however, in case of a missing adjacent tooth, there is no reference point , so it is impossible to include this condition.
- Facial or Lingual involvement of marginal tissue is not specified under Miller classification.
- According to Miller's classification interdental papillary recession cannot be classified, an additional classification system is required.
- The Application of Miller's classification on the palatal area is difficult on the maxillary arch as there is no MGJ on this aspect.

- The prognosis of root coverage following grafting procedure is estimated in Miller's classification, it states that 100% root coverage in Class I and Class II recession, partial root coverage in Class III, and no root coverage in Class IV.

4.6. *Smith* (1990) [9]

- 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%.

4.6.1. Drawbacks [7]

It is not clearly specified that in cases of extensive vertical component, in addition to that horizontal component may be present at an intermediate distance between CEJ and base of the defect. Further, it is more complex as multirooted teeth has separate values. In the presence of intact interdental papilla it is difficult to detect the midpoints of mesial and distal surfaces.

4.7. Nordland WP and Tarnow DP (1998) [9]

A classification system for loss of papillary height.

The system utilizes three identifiable landmarks:

- Interdental contact point
- Facial apical extent of the CEJ
- Interproximal coronal extent of the CEJ
- Normal: Interdental papilla fills embrasure space to the apical extent of the interdental contact point/area
  - Class I: The tip of the interdental papilla lies between the inter-dental contact point and the most coronal extent of the inter-proximal cemento-enamel junction (CEJ)
  - Class II: The tip of the inter-dental papilla lies at or apical to the interproximal cemento-enamel junction CEJ but coronal to the apical extent of the facial CEJ
  - Class III: The tip of the papilla lies level with or apical to the facial CEJ.

4.8. *Mahajan's* modification of Miller's classification (2010) [6]

- Class I: Gingival tissue recession not extending to muco-gingival junction.
- Class II: Gingival tissue recession extending to muco-gingival junction or beyond it.
- Class III: Gingival tissue recession with bone or soft-tissue loss in interdental area up to cervical 1/3 of root surfaces and/or malpositioning of the teeth.
- Class IV: Gingival tissue recession with severe bone or soft tissue loss in interdental area greater than cervical 1/3 of root surface and/or severe malpositioning of teeth.

Prognosis according to Mahajan's modification

- BEST –Thick gingival profile in Class I and Class II.
- GOOD –Thin gingival profile in Class I and Class II.
- FAIR –Thick gingival profile in Class III.
- POOR –Thin gingival profile in Class III and Class IV.

4.8.1. Drawbacks [7]

In 2010, Mahajan proposed a modification of Miller's classification. This modification still does not satisfy all clinical conditions. For example, a tooth with gingival recession is 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 involvement of MGJ in Class III.

4.9. *Cairo et al* (2011) [9] classified gingival recession at both buccal and interproximal areas based on the assessment of CAL

- TYPE-1: Gingival recession with no loss of interproximal attachment. Interproximal CEJ is 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 is less than or equal to the buccal attachment loss.
- TYPE-3: Gingival recession associated with loss of interproximal attachment. The amount of interproximal attachment loss is greater than the buccal attachment loss.

Interproximal attachment loss- Measured from the interproximal CEJ to the depth of the interproximal sulcus/pocket.

Buccal attachment loss- Measured from the buccal CEJ to the apical end of the buccal sulcus/pocket.

4.10. *Rotundo et al.* (2011) [9] classified gingival recession with both soft and hard dental tissues.

For this classification, there are specific taxonomic variables,

- The amount of keratinized tissue (KT = 2 mm);
- The presence/absence of non-carious cervical lesion, with a consequent unidentifiable CEJ.
- The presence/absence of interproximal attachment loss.

4.11. Kumar and masamatti (2013) [9]

- Class I: There is no loss of interdental bone or soft tissue.

This is sub classified into two categories:

- Class I A: Gingival margin on F/L aspect lies apical to CEJ, but coronal to MGJ with attached gingiva present between marginal gingiva and MGJ.
- Class I B: Gingival margin on F/L aspect lies at or apical to MGJ with an absence of attached gingiva between marginal gingiva and MGJ.
- Class II: The tip of the interdental papilla is located between the interdental contact point and the level of the CEJ mid-buccally/mid-lingually. Interproximal bone loss is visible on the radiograph. This is sub-classified into three categories:
  - Class II A: There is no marginal tissue recession on F/L aspect
  - Class II B: Gingival margin on F/L aspect lies apical to CEJ but coronal to MGJ with attached gingiva present between marginal gingiva and MGJ
  - Class II C: Gingival margin on F/L aspect lies at or apical to MGJ with an absence of attached gingiva between marginal gingiva and MGJ.
- Class III: The tip of the interdental papilla is located at or apical to the level of the CEJ mid-buccally/mid-lingually. Interproximal bone loss is visible on the radiograph.

This is sub-classified into two categories:

  - Class III A: Gingival margin on F/L aspect lies apical to CEJ, but coronal to MGJ with attached gingiva present between marginal gingiva and MGJ.
  - Class III B: Gingival margin on F/L aspect lies at or apical to MGJ with an absence of attached gingiva between marginal gingiva and MGJ.

4.12. *Horizontal* Extent of Recession [9]

  - Score 0 - No clinical evidence of root exposure

- Score 1 - No clinical exposure of root exposure plus a subjective awareness of dentinal hypersensitivity in response to a 1 s 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%.

4.13. *Vertical* Extent of Recession [9]

- Score 0 - No clinical evidence of root exposure.
- Score 1 - No clinical exposure of root exposure and there is also a subjective awareness of dentinal hypersensitivity is reported and/or there is clinically detectable exposure of the CEJ not extending more than 1 mm vertically to the gingival margin.
- Score 2–8 - Root exposure is seen 2–8 mm extending vertically from the CEJ to the base of the soft tissue defect.
- Score 9 - Root exposure seen more than 8 mm from the CEJ to the base of the soft tissue defect.
- Score * - An asterisk is present next to the second digit whenever the vertical component of the soft tissue defect encroaches into the MGJ or extends beyond it into alveolar mucosa; the absence of an asterisk implies either absence of MGJ involvement at the indexed site or its non-involvement in the soft tissue defect.

4.14. Proposed Classification for palatal recession [9]

The position of interdental papilla always remains the basis for classifying gingival recession on palatal aspect.

The criteria of sub classifications have been modified to compensate for the absence of MGJ.

- Marginal tissue recession on palatal aspect with no loss of interdental bone or soft-tissue
  - Marginal tissue recession ≤3 mm from CEJ
  - Marginal tissue recession of >3 mm from CEJ
- The tip of the interdental papilla is located between the inter-dental contact point and the level of the cement enamel junction mid-palatally. Interproximal bone loss is visible on the radiograph.
  - Marginal tissue recession ≤3 mm from CEJ
  - Marginal tissue recession of >3 mm from CEJ
- The tip of the interdental papilla is located at or apical to the level of the cement enamel junction mid-palatally. Interproximal bone loss is visible on the radiograph.
  - Marginal tissue recession ≤3 mm from CEJ
  - Marginal tissue recession of >3 mm from CEJ

4.15. Prashant et al. (2014) [9]

- Class A, identifiable CEJ on the entire buccal surface
- Class B, unidentifiable CEJ totally or partially.

5. Diagnosis [10]

Clinically, diagnosis can be done via establishing the exact location of the recession, and examining the most common site of the disease are considered vital in diagnosis. It should be noted that buccal surface is usually the site where the most severity of the disease progresses and complications is found. Therefore, dentist has to examine other surfaces to establish the overall state of the disease. Increased risk of tooth loss, dentinal hypersensitivity and poor aesthetics is found when there is a delay in diagnosis of gingival recession.

6. Indications for treatment [11]

Treatment for gingival recession may be necessary for a number of reasons:

- Aesthetics

- prevention of continued recession
- sensitivity
- Shallow root caries.

7. Assessment for root coverage [11]

The gingival recession assessment can be done using the following factors:

- Width of defect
- Height of defect
- Probing depths
- Adjacent soft tissues
- Remote soft tissues
- Aesthetics
- Root surface.

8. Clinical aspects [12]

8.1. Local gingival retraction

Local gingival retraction might be V or U-shaped.

- Patients with bruxism and clenching habits have V-shaped local recession. In condition of severe apical migration, this type of recession is known as “Stillman’s cleft.”
- Chronic inflammatory periodontal disease, with inadequate tooth brushing or inadequate frenulum insertion have U-shaped local recession. In this type of recession traumatic brushing is surrounded by healthy gingiva and it is associated with abrasion, with a smooth, polished surface. This life saver shaped gingival enlargement of marginal gingiva is known as “McCall’s festoon.”

8.2. Generalized or horizontal retraction

Gingival retraction is accompanied with chronic inflammatory destructive periodontal disease in its generalized or horizontal form. In proximal areas loss of periodontal support can cause compensatory remodelling on the buccal and lingual surfaces, leading to displacement of marginal gingiva including interdental papillae apically.

8.3. Treatment

The main indication for the treatment of gingival recession are esthetic, dentin hypersensitivity, root caries, and cervical abrasion [13]. There are many non-surgical and surgical treatment options.

8.4. Non-surgical management

Non-surgical therapy includes scaling and root planning, proper brushing techniques, flossing, proper oral hygiene instructions, and periodic supportive periodontal therapy.

The non-surgical treatment options available include: [2]

8.4.1. Monitoring and prevention [2]

If the recession defect is minimal, not in the aesthetic zone and then it is not associated with dentine hypersensitivity or root caries, so it may be acceptable to the patient to do nothing but the patient has to visit dentist to evaluate the recession in regular basis periodically.

8.4.2. Desensitising agents, varnishes and dentine bonding agents [2]

If the patients main complaint is sensitivity and not esthetic then we have to treat sensitivity.Dentin hypersensitivity can be treated either by blocking the dentinal tubules or preventing nerve stimulation.There are many commercially available products such as varnishes,dentine bonding agents,glass ionomer cements or composite resins to cover the root surface and block the dentinal tubules to prevent fluid movement.Toothpastes and mouthwashes are widely

available to treat sensitivity. These contain either strontium or potassium aim to stabilise the nerve by decreasing the nerve excitability.

8.4.3. Composite restoration [2]

There may be some patients who have multiple sites of recession in the anterior aesthetic zone which is most commonly associated with periodontal disease. This results in formation of black triangle, which can be treated using composite restoration, it can also treat exposed root surfaces associated with the recession defects. Careful placement of composite restoration is essential to make sure that there is no plaque retentive margins which would promote further gingival recession.

8.4.4. Root Conditioning [14]

Before placing the soft tissue graft apply tetracycline HCL or citric acid to root surface.

8.4.5. Removable gingival veneers [2]

Crowns may be placed to widen the clinical crown which may camouflage the exposed root surface [14]. The removable gingival prosthesis can replace large volumes of receded soft tissue, fill the interproximal areas eliminates the black triangle and improve aesthetics [2].

8.4.6. Orthodontics [12]

Orthodontic treatment is not one of the primary factor of gingival recession. However, an existing periodontal problem can trigger gingival recession in an orthodontic patient.

8.4.7. Surgery-Frenectomy [14]

Frenectomy is advised when recession is caused due to frenal pull. Frenectomy is advised in patients who are not able to maintain the area plaque free even with proper hygiene aids to give ease to entrance to the site.

9. Surgical management [15]

Periodontal plastic surgery includes many surgical procedures involving the mucogingival tissues. The main indications for surgical management is to correct recession defects, improve localised soft tissue aesthetics, reduce hypersensitivity ,improve plaque control and prevent further progression of recession defect. The objectives in the treatment of this defect should include the elimination of periodontal pockets, restoration of physiologic gingival form and the establishment of an adequate zone of attached gingiva.

9.1. Pedicle grafts [6]

9.1.1. Rotational flaps

Laterally positioned flap [6]

Grupe and warren introduced the use of lateral repositioned flap to cover areas with localized recession which is called the lateral sling flap which is currently known as laterally positioned pedicle flap operation. In order to reduce the risk of recession in relation to the donor tooth, he suggested that marginal soft tissue should not be included in the flap. For successful root coverage using laterally positioned pedicle graft, there are three criteria they are, adequate donor tissue laterally, normal to deep vestibule, recession involving only one tooth.

Obliquely rotated flap [16]

Ultrasonic scaling should be done prior to the surgery at least before 1 week and during the surgery, so that the inflammation gets reduced and it also produce tissue which provides a wider band of attached gingiva at the donor site. Lateral to the lesion in the attached gingiva and alveolar mucosa the incisions are made. The flaps are elevated by using sharp dissection. An intense care should be taken during dissection so that the periosteum and connective tissue can be retained over bone. If the labial bone is prominent then care should be taken during dissection to prevent perforation of tissue at the mucogingival tissues. During sharp dissection there is a separation of free gingiva and alveolar mucosa from the underlying periosteum by horizontal incision. As this separation occurs the alveolar mucosa is drawn apically and exposes a zone of periosteum which is of sufficient size to receive the flap. The two flaps of mature gingiva are

rotated mesially and apically into a horizontal position. The flap edges are approximated and sutured to the underlying tissue.

Double papilla flap [6]

Double papilla graft is a variation of the laterally positioned graft. This procedure is developed to use gingiva in minimal amount for root coverage. It is indicated in condition where there is recession present in labial or lingual aspect of gingiva. This type of recession is observed in areas where the gingiva have been destroyed by improper brushing technique and there will be a development of cleft.

9.1.2. Advanced flaps

Coronally positioned flap [6]

This technique provides good aesthetic results. It is indicated in areas when there is adequate sulcular depth. Pedicle flap surgical techniques are recommended if there is adequate keratinized tissue close to the recession defect. In this surgical approach, the aesthetic results are more satisfactory. Beyond the mucogingival junction two vertical incisions are extended and a full thickness flap is raised. The flap is dissected to free the periosteum. The flap is repositioned in a coronally and secured with suture. Class I and Class II recession defects are commonly treated using coronally advanced flap.

- Indications for Coronally Advanced Flap
  - Coverage of certain types of gingival recessions.
  - Aesthetic coverage of exposed roots.
  - For tooth sensitivity owing to gingival recession.
- Contraindications for Coronally Advanced Flap
  - Lack of keratinized tissue.
  - Shallow vestibule.

Semilunar flap [17]

Semilunar flap technique is done by following the curvature of the free gingival margin in relation to the site. The Incision should be extended into the alveolar mucosa if there is no adequate keratinized tissue to cover the recession. The incision should curve apically till mid-facially to ensure that the apical part of the flap rests on bone to cover the denuded root surface. The incision should end into the papilla but not all the way to the tip of the papilla. At least 2 mm thickness of flap should be left on either side, due to its enriched blood supply. Using 15c blade, an initial incision line should be made coronally using a split thickness dissection. This is connected mid-facially using intrasulcular incision. The mid-facial tissue is then coronally positioned to the CEJ, or to the height of the adjacent papilla in cases of interproximal recession. The tissue is held in its place with moist gauze for 5 min. A free gingival graft can be placed if a fenestration is present in relation to the donor site. The area is packed with periodontal pack. Post operative instructions should be given.

9.2. Free soft tissue graft: [6]

The free soft tissue grafts can be used to treat mild recession, They are selected when there is no acceptable donor tissue in the present in the area adjacent to the recession defect, when the thicker marginal tissue is desirable.

9.2.1. Epithelialized (classical gingival graft)

The epithelialized free soft tissue graft procedure are performed either as a two-step surgical technique, where the graft is placed apical to the recession and following that healing is coronally positioned over the denuded root surface, or as a one-step technique, in which the graft is placed directly over the root surface.

Non-epithelialized

9.3. Combination grafts

9.3.1. Stage procedure.

- Connective tissue graft plus pedicle graft.
- Biodegradable membrane barrier plus pedicle graft.

9.3.2. Stage procedure.

- Coronally positioned previously placed soft tissue graft.
- Non-biodegradable membrane barrier plus pedicle graft.

9.3.3. Guided tissue regeneration: [1]

The use of GTR procedures for root coverage includes evidence of regeneration of new periodontal tissue attachment. GTR allows the selective repopulation of a root surface by periodontal ligament cells that can form new connective tissue attachment between root surface and alveolar bone. The principle of GTR is creation and maintenance of a space between the root surface and the overlying barrier membrane. One of the factor that may negatively influence the success of this procedure is tissue thickness, a minimum of 1mm gingival tissue thickness at the site of recession is required.

10. Postoperative care [11]

Postoperative care should follow the usual precautions associated with periodontal surgery:

- Chlorhexidine mouthwash should be prescribed while cleaning is compromised, and the patient should be advised not to manipulate the area (for example, by pulling the lip out to examine the surgical site).
- The site should be reviewed after 1 week, when non-resorbing sutures can be removed usually. If there is any doubt as to the integrity of the healing, sutures should be left for another week.
- The area should be deplaqued using chlorhexidine on cotton wool pellets.
- Oral hygiene instruction should be given.
- The patient should be reviewed again at 2 and 4 weeks postoperatively and deplaqued at both visits.

11. Conclusion

Gingival recession is one of the most common esthetic concern of patient which may also lead to sensitivity. So, therefore to treat gingival recession suitable non-surgical and surgical procedures are carried out to bring back gingiva to its original contour and position. Therefore, a good knowledge of etiology, pathogenesis and proper treatment planning is needed to treat gingival recession.

Compliance with ethical standards

Acknowledgments

I thank my guide and my colleagues in preparing this review.

Disclosure of conflict of interest

No conflict of interest.

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