

Gingival Veneer-An Esthetic Challenge for Gingival Recession Management

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Abstract

Anterior dental esthetics becomes crucial in patients with periodontal disease with open embrasures, increased crown height, black triangles. Periodontal diseases result in damage and destruction of the supporting structures of the teeth, including the bone and periodontal ligament. In some cases, there is loss of gingival coverage of the teeth in esthetic regions with gingival recession and loss of interdental papilla. The surgical treatment in such situations may delay healing time with often unpredictable results. Gingival veneer is esthetically appealing and easy to maintain. This is a conservative method of obtaining predictable esthetics. This method is an innovative treatment option for dealing with esthetic challenges and long term dental health. This case report describes a technique to replace gingival tissue with a gingival veneer.

Keywords: Dental Esthetics, Gingival Veneer, Recession.

Introduction

Chronic periodontal disease results in destruction and degeneration of the supporting bone and the supporting periodontium. In the advanced stage, it may lead to increased bone loss, attachment loss, gingival recession, mobility, and drifting of teeth. Bone loss in alveolar crest leads to loss of interdental papilla which further leads to the formation of black triangles. According to Tarnow et

al., the distance between the contact point and alveolar crest should be at least 5 mm for the formation of the interdental papilla¹. Dental esthetics is just not confined to the tooth as such but also to the gingival component (soft-tissue). Such interdental spaces may also result in phonetic problems due to escape of air².

Management of gingival recession varies according to the classification of gingival recession. Class I and II can be managed surgically whereas severe and extensive recession in multiple teeth can be managed nonsurgically with a gingival prosthesis. Gingival prosthesis is a simple yet effective method for the management of gingival recession and black triangles³.Gingival prosthesis is also called as flange prosthesis, gingival mask, gingival veneer prosthesis, gingival replacement unit, and artificial gingiva. Different materials used to fabricate include an acrylic resin (heat polymerized/auto-polymerized), silicones, porcelain or even resin composites matching the color of the gingiva. It is worn in the labial aspect of the dental arch, which aims to restore the muco-gingival contour and esthetics in areas where periodontal tissues are deficient⁴. The following case report describes a technique to replace gingival tissue with a comfortable and accurately fitting gingival veneer. This is a useful, stable, economical and esthetically acceptable method.

Case Report

A 35 year old female patient reported to Department of Periodontics, Mahatma Gandhi post graduate institute of dental sciences, with the complaint of receding gums, sensitivity and food lodgement in the maxillary anterior region. The patient expressed dissatisfaction with the esthetics of her existing dentition. On examination Millers class I gingival recession with a labiogingival groove and a periodontal pocket of probing depth of 7mm was noted in 11(Fig 1).The treatment plan was first to eliminate the periodontal pockets, restore the labiogingival groove and a gingival prosthesis for the maxillary anteriors. The patient was informed about the treatment plan and a written informed consent was obtained from her. The patients phase I therapy was started which included scaling and root planning by ultrasonic scalar and hand instruments and oral hygiene instructions was given. Patient was also instructed to use a desensitizing tooth paste and 0.2% chlorhexidine mouth rinse and her brushing technique was modified. After one month of initiation of phase I therapy, the patient was re-evaluated for pocket probing depth and surgical procedure was planned for eradication of periodontal pocket and management of labiogingival groove. Kirkland flap operation was planned for 11, 12, 21.A crevicular incision was placed and a full thickness flap was elevated tissue tags and the granulation tissue were debrided (Fig 2).The labiogingival groove was restored with type II glass ionomer cement (Fig 3) and the flaps were sutured using interrupted 3-0 black silk after which the operated site was covered with non-eugenol periodontal dressing for protection. Post operative instructions were given and patient was recalled after one week and suture removal was done and the patient was put under maintenance phase. After 2 months of flap surgery, the probing depths were reduced except for the unesthetic appearance of the anteriors (Fig 4), hence a gingival

veneer was planned. For the gingival veneer, a buccal approach was used to create the master impression with a complete interproximal detail. The lingual embrasures were blocked using utility wax. A custom tray was used to make a final impression using polyether impression material. The cast was prepared using type IV die stone, and a gingival prosthesis was waxed up and processed in heat-cured acrylic resin. Retention was achieved with minor interproximal undercuts. The prosthesis was made extremely thin and flexible so as to engage the undercuts (Fig 5).

Discussion

Periodontal disease progression, pocket elimination procedures, and respective osseous surgeries often lead to creation of recession and the potential for a compromised esthetic outcome, especially in the maxillary anterior region⁵. Gingival defects may be treated with surgical or prosthetic approaches. With successful surgical treatment, the result mimics the original tissue contours⁶. Such treatments include minor procedures to rebuild papillae and grafting procedures that may involve not only soft-tissue manipulation, but also bone augmentation to support the soft tissue. It is possible to create esthetically pleasing and anatomically correct tissue contours when small volumes of tissue are being reconstructed, but this method is unpredictable when a large volume of tissue is missing⁷.

In the present case the patient had a compromised periodontal condition in the maxillary anterior region. After phase I therapy the gingiva remained soft with an average probing depth of 6mm and also a labiogingival groove was present. Two months after flap surgery the gingiva was firm and resilient, the probing depth reduced to 3mm, thereby creating a suitable environment for gingival prosthesis.

Currently, there is no predictable surgical method for correcting esthetic deformities that result from generalized attachment loss⁸. In such situations, gingival prosthesis can be used and various authors have described their uses and methods of construction^{9,10}. The gingival prosthesis can replace a large volume of tissue that has been lost to the disease process or its treatment. The advantage of the prosthesis is that it can be easily cleaned, creates an ideal contour with removable prosthodontic materials, and does not disturb the other dental units. In the present case the prosthesis provided an esthetic result, reduced hypersensitivity significantly, prevented food lodgement, and improved phonetics.

Conclusion

Gingival recession caused due to periodontal disease frequently disturbs patient's esthetics. Dental esthetics is based not only on the "white component" of the restoration, but also on the "pink component." The periodontal attachment loss, loss of interdental papilla, and gingival recession in the maxillary anterior region can often lead to esthetic and functional clinical problems. In such cases, it becomes a challenge for the dentist to maintain hygiene and at the same time provide an esthetic solution for the missing gingival tissue. Gingival veneer is a good treatment option for patients with generalized/multiple recessions to achieve good esthetics. Prosthetic option of a gingival veneer helps in mimicking natural appearance of the gingiva in a predictable way, which is cost-effective to the patient.



Fig 1: Labi gingival groove in 11

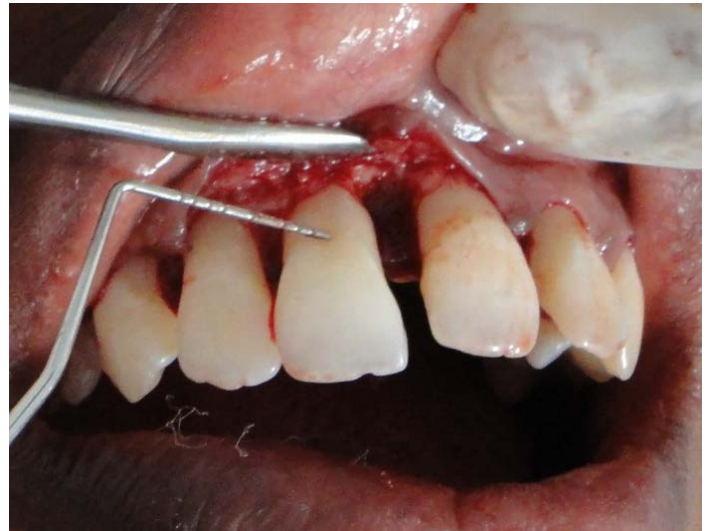


Fig 2: After flap elevation



Fig 3: GIC restoration of Labi gingival groove



Fig 4: 2 months postoperative after flap



Fig 5: Gingival veneer

References

1. Tarnow DP, Magner AW, Fletcher P. The effect of the distance from the contact point to the crest of bone on the presence or absence of the interproximal dental papilla. *J Periodontol* 1992;63:995-996.
2. Mekayarajjanononth T, Kiat-amnuay S, Sooksuntisakoonchai N, Salinas TJ. The functional and esthetic deficit replaced with an acrylic resin gingival veneer. *Quintessence Int* 2002; 33:91-94.
3. Patel M, Nixon PJ, Chan MF. Gingival recession: Part 1. Aetiology and non-surgical management. *Br Dent J* 2011;211:251-4.

4. Gopakumar A, Sood B. Conservative management of gingival recession: The gingival veneer. *J Esthet Restor Dent* 2012;24:385-93.
5. Reddy MS. Achieving gingival esthetics. *J A D A*. 2003;134:295-304.
6. Swarna P, Vivek P, Nilima R. Gingival veneer: Mask the unesthetic. *J of Ind Soci Periodontology* 2011;15(3):284-287.
7. Barzilay I, Irene T. Gingival prostheses - A Review. *J Can Dent Assoc*. 2003;69:74-8.
8. Greene PR. The flexible gingival mask: An aesthetic solution in periodontal practice. *Br Dent J*. 1998;184:536-40.
9. Priest GF, Lindke L. Gingival-colored porcelain for implant-supported prostheses in the aesthetic zone. *Pract Periodontics Aesthet Dent*. 1998;10:1231-40.
10. Blair FM, Thomason JM, Smith DG. The flange prosthesis. *Dent Update*. 1996;23:196-9.