



GINGIVAL EPITHESES - SOLUTION TO LOST GINGIVAL TISSUE; A CASE REPORT

Dr. Sana Farista¹ | Dr. Nirav Rathod² | *Dr. Shanin Farista³

¹ Senior Lecturer, Department of Periodontology, Maitri College of Dentistry and Research Centre, Anjora, Durg, Chhattisgarh.

² Assistant Professor, Chandu Lal Memorial Medical College, Kurud Road, Durg, Chhattisgarh.

³ P.G Student, Department of Conservative Dentistry and Endodontics, Maitri College of Dentistry and Research Center, Anjora, Durg, Chhattisgarh.

ABSTRACT

Smile is a curve that sets everything straight. Of all the components of a smile, the teeth play a very important role in creating a perfect smile, but it is not just the perfect teeth, healthy appearing supporting tissue and its architecture are key components for achieving an esthetic and pleasing smile. Lack of adequate gingival architecture and proper contour in the horizontal and vertical dimensions (gingival recession and black triangles) may result in compromised esthetics. Reconstruction of these areas with gingival epithesis (gingival veneer) can be useful to correct the deformities remaining after the control of periodontal diseases, especially in the anterior region. Gingival veneers are stable, comfortable and cost effective treatment modality which accurately and esthetically restores the interdental papilla and gingival recession.

KEY WORDS: Gingival Recession, Black Triangles, Gingival Epithesis, Gingival Veneers.

Introduction

Dental esthetics is based not only on the "white component" of the restoration but also on the "pink component." surrounding the teeth. Periodontal disease is a common condition in both populations with a high standard of oral hygiene as well as in periodontally untreated populations with poor oral hygiene. 1 and even periodontal surgical procedures can result in gingival recession and open gingival embrasures, commonly referred to as black triangles.

Gingival recession or marginal tissue recession is defined as an apical displacement of the gingival margin apical to the cemento-enamel junction (CEJ) with concomitant exposure of the root surface. 2

A number of factors have been proposed to influence the development of Gingival Recession, including abnormal tooth position in the arch, plaque-induced inflammation, traumatic tooth brushing, orthodontic treatment, and restorative procedures. 3 Gingival recession may represent a problem for the patient because of poor aesthetics, dentin hypersensitivity, increased susceptibility to root caries and abrasion, and fear of tooth loss.

Black triangle can be defined as "Any interproximal soft tissue loss due to periodontal disease, traumatic, mechanical or chemical preparation or crown lengthening procedures"- GPT-8 4.

Several root coverage procedures have been proposed to treat Gingival recession, including rotational and advanced gingival flaps, free gingival or connective tissue grafts, and by applying principles of guided tissue regeneration. 2

There are several factors which determine the predictability of outcomes in terms of root coverage, irrespective of the surgical technique applied. 5 While complete root coverage can be anticipated in Miller Class I and II recession defects, only partial root coverage can be expected in Class III defects. Sites exhibiting Miller Class IV recession are not amenable to root coverage; also surgical procedures are invasive, irreversible, technique sensitive, with results that are often unpredictable. 6

In cases where surgical procedures are considered unpredictable or impossible, as in Class III and Class IV gingival recession, the use of the gingival epithesis may be helpful in managing severe soft- and hard-tissue loss.

This paper presents a case which describes a technique to restore lost gingival tissue with a removable acrylic gingival veneer which is stable, esthetically acceptable and economical method.

Case report:-

A 38 year-old female patient reported to the Department of Periodontology, Maitri College of Dentistry and Research Centre, Durg, with the chief complaint of receding gums, sensitivity and food lodgement in the maxillary and mandibular anterior region. The patient was unsatisfied with her present smile, saying that the tooth looks longer.

On examination, generalized bleeding on probing was present, Miller's class IV recession was seen with 14-24 & 34-44, periodontal pockets with 14-24 & 34-44 which was 3- 4mm, grade I mobility with all anteriors, black triangles was present between the maxillary & mandibular anterior teeth due to loss of interdental tissues (**Figure 1**). Radiographic examination involving a panoramic view and full-mouth intraoral periapical radiographs showed generalized horizontal alveolar bone loss in both arches.

The treatment plan was to first eliminate the periodontal pockets. Patient first received phase-I therapy, which included oral-hygiene instructions, scaling, and root planing by ultrasonic and hand instruments. Patient was instructed to use a desensitizing tooth paste.

After periodontal treatment, the patient maintained good plaque control. At 1 months following nonsurgical periodontal treatment, probing depths were less than 4 mm with no signs of bleeding on probing. However, despite an improved periodontal condition, the patient exhibited generalized moderate-to severe gingival recession with an unsatisfactory aesthetic result (**Figure 2**). Since the gingival condition was not suitable for treatment with surgical root coverage techniques, the decision was made to fabricate a gingival epithesis in both maxillary and mandibular arch.



Figure 1: Preoperative



Figure 2: Postoperative, after 4 weeks



Figure 5: Wax pattern prepared for maxillary gingival veneer.



Figure 6: Wax pattern prepared for mandibular gingival veneer.



Figure 7: Flasking of maxillary wax pattern.



Figure 8: Flasking of mandibular wax pattern.

For fabrication of the gingival veneer. Impression of the maxillary and mandibular arches was made using irreversible hydrocolloid impression material (Mariflex, Denstply, India) (Figure 3, 4) and was poured in type III dental stone (Goldstone, Asian Chemicals, Rajkot, Gujrat, India). Gingival prosthesis was waxed up (Figure 5, 6). Flasking (Figure 7,8), Dewaxing and Acrylization were done in usual manner by using heat cure denture base resin material (Lucitone 199, Dentsply, India). The prosthesis was properly trimmed, polished and was inserted in the patient's mouth. Retention was achieved with minor interproximal undercuts. (Figure 9). The gingival prosthesis provided excellent esthetic result, by which patient was fully satisfied. (Figure 10, 11)



Figure 3: Maxillary Impression



Figure 4: Mandibular Impression.



Figure 9: Post-operative intraoral photograph, with gingival veneer.



Figure 10: Pre-Operative Frontal Photograph without Gingival Veneer.



Figure 11: Post-Operative Frontal Photograph with Gingival Veneer.

Discussion

Reconstruction of the lost gingival tissues can be done with surgical or prosthetic approaches. Various surgical procedures and techniques are present which can reconstruct the lost gingival tissue with an excellent esthetic result. The disadvantages of surgical approach include need for bone augmentation, surgical costs, healing time, discomfort, morbidity of the donor site and unpredictability when large volume of tissue is missing.⁷

In such cases, prosthetic replacement is a more predictable approach for replacing the lost tissue architecture and various authors have described their uses and methods of construction.^{7,8,9} The gingival epithesis support the lip and resist trapping food and they are effective in solving phonetic problems. With this method, large tissue volumes are easily replaced. The major advantage of these prostheses includes an aesthetically pleasing, functional restoration without undergoing any additional surgical procedures when a larger amount of tissue needs replacement. Other advantages of prosthetic approach is that it is easy to maintain, economical, less time consuming, and more predictable outcome because wax trial can be made, shade matching can be done properly because of wide range of material available. The disadvantages of gingival veneers are poor patient compliance, and chances of breakage or discoloration of the prosthesis

The prosthetic gingival veneer can be removable or having an attachment on fixed prosthesis for its retention like magnets, clips etc. Materials used for gingival prostheses include pink auto-cure and heat-cure acrylics, porcelains, composite resins and thermoplastic acrylics, as well as silicone-based soft materials.^{7,8,9,10} Gingival epithesis is also known as gingival veneer, gingival mask, gingival slip, and party gums.

In the present case the patient had a compromised periodontal condition. After 3 months of phase I therapy, the gingiva was firm and resilient, the probing pocket depth was 3 mm, no bleeding on probing, thereby creating a suitable environment for gingival prosthesis. The gingival epithesis provided an esthetic result, hypersensitivity was reduced significantly, prevented food lodgement, and improved phonetics was seen.

Conclusion

The case report presented a clinical situation of periodontal attachment loss, loss of interdental papilla, and gingival recession. Removable gingival prosthesis provided is a good treatment option in advanced tissue loss, achieving esthetic results and patient satisfaction without any complication. The corrugated tissue surface was used to provide retention of the prosthesis; this procedure rendered a noninvasive, less costly and less time consuming treatment to the patient.

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