

Gingival prosthesis-a case report

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Abstract

‘A charming smile can open the doors and knock down barriers that stand between you and a fuller richer life’. However, not all the beautiful people were born that way. Many have taken the advantage of plastic surgery as well as cosmetic surgery. The harmony of the smile is determined not only by shape, position and colour of tooth but also by the gingival tissues. Gingival tissues often undergo pathologic changes leading to gingival recession, black triangles. Management of gingival recession class I and class II can be managed surgically whereas severe and extensive recession in multiple teeth can be managed non surgically with a gingival prosthesis.¹ Here is a case report in which a removable gingival prosthesis was used.

Keywords: Black triangles, Gingival recession.

Introduction

Dental esthetics is affected not only by dental component but also by mucogingival component. In patients with high smile line presence of black triangle or inadequate marginal and attached gingiva fabrication of anterior restoration is considered as a failure. Such cases can be managed surgically whereas severe extensive recession can be managed non-surgically with a gingival prosthesis. A gingival veneer/mask/flange prosthesis is worn on the labial aspect of dental arch which aims to restore the mucogingival contour and esthetic areas where periodontal tissues are deficient. Different materials used to fabricate include acrylic resins (heat/auto-polymerised), silicones, porcelain and resin composites matching the colour of the gingiva.^{2,3,4,5} 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 55 year-old male patient reported to the Department of Prosthodontics, Mamata Dental College Khammam, with the complaint of receding gums, sensitivity and food lodgement in the maxillary anterior region. He also had missing teeth in the anterior mandibular region. The patient expressed dissatisfaction with esthetics of his existing dentition. On examination, recession was seen with 13-23, missing 31-43, [Fig. 1] as the patient was not willing for any surgical procedures hence a conservative approach was undertaken i.e. gingival prosthesis was planned. This was to be followed by rehabilitation by removable denture for the mandibular anteriors

The patient first received phase-I therapy, which included oral-hygiene instructions, scaling, and root

planning by ultrasonic and hand instruments. He was instructed to use a desensitizing tooth paste and a modified Stillman brushing technique and to avoid techniques that could cause damage to the marginal tissues (e.g., a scrub technique or bass technique).

The patient was referred to the Department of Prosthodontics for replacement of 31-43 with a removable partial denture. For the gingival veneer, preliminary impression made with alginate, cast obtained [Fig. 1]. A custom tray fabricated [Fig. 2]. Buccal approach was used to create the master impression with a complete interproximal detail. The lingual embrasures were blocked using utility wax. Putty index obtained [Fig. 3] using custom tray. Final impression was made using light body impression material [Fig. 4]. The cast was prepared using type IV die stone. [Fig. 5], and a gingival prosthesis was waxed up [Fig. 6] and processed in heat-cured acrylic resin [Fig. 7]. Retention was achieved with minor interproximal undercuts. The prosthesis was made extremely thin and flexible so as to engage the undercuts [Fig. 8, 9]. Patient was instructed to clean the mask once each day with mild detergent and soft brush. Also instructions were given to clean it every time after having food. The veneer was to be stored in water during night to prevent warpage of the prosthesis. This would also ensure adequate rest to the gingival tissues.



Fig. 1



Fig. 2



Fig. 5



Fig. 3



Fig. 6



Fig. 4



Fig. 7



Fig. 8



Fig. 10



Fig. 9

Discussion

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. However, dramatic esthetic results have been achieved using gingival veneers. Barzilay and Ireene in 2003 presented different methods of using pink material to create gingival prosthesis. The cosmetic benefit restores the self confidence of the patient and enables the patients to smile again.³ The acrylic gingival veneer have the drawbacks of being hard, rigid and difficulty in fitting accurately around multiple teeth while they have the advantage of being color stable and last longer.⁶ Laietal in 2003 studied the invitro colour stability, stain resistance and water sorption of four removable gingival flange made of silicone or copolyamide material may be prone to stain with coffee and tea than traditional denture base acrylic resins.⁷

A clear understanding of the clinical requirements is essential before soft-tissue replacement with either fixed or removable prostheses (Table 1). The final result can be esthetically pleasing and usually solves the clinical deficit.³

Characteristic	Removable prosthesis	Fixed prosthesis
Cost	Additional to the original cost of the prosthesis	Cost part of the original prosthesis(if a secondary prosthesis is being made)
Stability and retention	Prosthesis mobile, so retention must be maintained; adhesives or attachments may be used to enhance retention	Prosthesis fixed and therefore always stable
Oral hygiene	Easy access to interproximal embrasures	Hygiene more difficult because of lack of space for instrumentation
Long-term prognosis (wear, damage, loss)	Prosthesis may wear, become damaged	Minimal wear, with no danger of damage be lost or loss

Complications (ingestion and inhalation)	Prosthesis susceptible to ingestion or inhalation	Prosthesis not subject to ingestion or inhalation
Esthetics	Larger volumes of tissue can be replaced, and adequate bulk can be created for esthetic appearance	Esthetics may be less pleasing because of limited applicable volume (must leave interproximal areas open for oral hygiene); the prosthesis must be cleanable, therefore ridge lapping needs to be avoided
Ability to retrofit	Prosthesis can be adjusted as tissue changes	Tissue portion of prosthesis cannot be adjusted easily

Conclusion

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. Removable gingival prosthesis is a good treatment option in advanced tissue loss, achieving esthetic results and patient satisfaction. Such prostheses, in the hands of a trained and experienced clinician, offer predictable and satisfactory results in the management of esthetic problems.

References

1. Carranza's Clinical Periodontology, 10th Edition.
2. Mekayarajjananonth J, Kiat-amuay S, Sooksuntisakoonchai N, Salinas JJ, The functional and esthetic deficit replaced with an acrylic resin gingival veneers Quintessence In 2002;33:91-4.
3. Barzilay I and irene T. Gingival prostheses - A review. J can Dent Assoc 2003;69;74-8.
4. Greene PR. The flexible gingival mask; An aesthetic solution in periodontal practice. Br. Dent J 1998;184;536-40.
5. Priest GF, Lindke L, Gingival coloured procelains for implant - supported prosthesis in the aesthetic zone. Pract Periodontics Aesthe Dent 1998;10;1231-40.
6. Ellis SGS, Sharma P. and Harris. IR; case report; aesthetic management of localized periodontal defect with a gingival veneer prosthesis Eur J prosthodont Rest Dent.2000;8(1);23-26.
7. Lai YL, Lui HF, Lee SY. Invitro color stability, stain resistance and water sorption of four removable gingival flange material, J prosthetic Dent 2003;90:293-300.