

“GINGIVAL MASK” — Restoring the lost smile.

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Abstract: Periodontal attachment loss in the maxillary anterior region can often lead to esthetic and functional clinical problems including disproportional and elongated clinical crowns and visible interdental embrasures. Gingival replacement prosthesis have historically been used to replace lost tissue. An acrylic resin gingival veneer is an easily constructed, inexpensive, and practical device to optimize the esthetic and functional outcome in these special situations while permitting cleansibility of the prosthesis and supporting tissues. This is a case report of a young female patient treated using an acrylic gingival veneer with a two-year follow-up. The acrylic gingival mask, has enabled the patient to regain her lost smile and face people with newly found confidence also enhancing the esthetic appearance. Virtually no problem was encountered during the two years of usage of the veneer and the patient continues to use it comfortably.

Key Words: Periodontal attachment, gingival replacement, esthetic, gingival veneer.

I. Introduction

Gingival recession is the most common clinical manifestation of all the oral diseases, as it has a relatively high incidence rate.^[1] A gratifying smile is an assembly of various components. Marginal gingiva and interdental papilla, having high aesthetic value, are muller over as the chief components of a smile. Gingival recession can cause loss of inter-dental papilla and lead to open embrasures, which project in the form of black triangles. The black triangles that appear as a result of gingival recession will distort an amiable smile. The condition can be corrected or managed by two approaches.

The first option is muco-gingival surgery or gingival plastic surgery, with gingival augmentation coronal to the recession. This is suitable for mild to moderate type of gingival recessions. In severe gingival recession conditions, as in grade III and grade IV recessions, muco-gingival surgeries may give less predictable esthetic results or might cause recurrence.

The second option, gingival replacement with artificial substitutes, is more helpful in managing severe gingival recession situations. The synonyms of gingival veneer are Flange prosthesis, gingival mask, gingival veneer prosthesis, gingival replacement unit and artificial gingiva.

This case report describes the use of an acrylic gingival veneer to hide the deformities in a young female patient with a successful follow-up of 2 years.

The gingival replacement unit should be fabricated two to three months following initial periodontal treatment to allow the gingiva to stabilize. But in certain situations the mask can be used as an interim measure to improve the esthetics of anterior crowns after initial periodontal therapy to allow time for healing and the establishment of periodontal stability and prognosis. In this way the patients smile can be maintained while the final treatment planning decisions are delayed until the periodontal prognosis is established.^[2,3,4]

The removable gingival mask is indicated

- To cover- exposed crown margins, exposed implant components and root surfaces and reduce the length of the clinical crown.
- To block out the black triangles between teeth in which gingival recession has occurred
- To fill in the space between the crown and the soft tissue
- To prevent airflow through or beneath maxillary fixed restorations or through the spaces between the teeth and thus improving phonetics
- To provide increased lip and cheek support for those patients who require it
- It is also beneficial for patients with high lip lines and a gummy smile who have been treated with osseointegrated dental implants.
- To hide the dark lines around old crowns that are often seen with patients who have experienced gingival recession.
- It also aids the prosthodontist to design implant supported prosthesis with optimal configurations permitting easy access for oral hygiene maintenance.

The gingival mask is contra-indicated in patients with poor plaque control, unstable periodontal health, high caries activity, smoking and known allergy to acrylic or silicone.

The gingival mask is retained mechanically, with tiny extensions of the mask material slightly projecting between the roots of the natural teeth or the implants just above the gum line. Part of the retention also comes from the natural capillary action created by the saliva and lastly part of the retention is dependent on the pressure of the lips against the gingival prosthesis

1.1 CASE REPORT

A 25-year old female patient visited the Department of Periodontics, with the chief complaint of increased spaces between teeth and increased visibility of teeth in relation to her upper front teeth. She was diagnosed as a case of generalized aggressive periodontitis. She had undergone periodontal flap therapy as a result of which had gingival recession in the upper anterior region. Her anterior teeth were found to be mobile and hence a composite-wire splint was placed palatally to stabilize the teeth before planning further treatment. Her anterior teeth also showed grooving and chalky white areas due to fluorosis. Surgical correction to cover the recession and the inter-dental black triangles was not possible and hence the decision to fabricate a gingival veneer was established. Also restorative procedures to mask her fluorosed teeth were planned and consisted of placing labial composite veneers from canine to canine.

II. Fabrication

Impression of the upper arch was made using irreversible hydrocolloid impression material. To prevent the impression material from flowing out of the palatal aspect, a wax sheet was molded on the palatal side of the teeth to be treated, to form a wall or barrier for each embrasure. After setting, this barrier was trimmed so that the wax only formed a barrier at the lingual or palatal aspect of each embrasure, but did not encroach into the inter-dental space itself. While making the impression, the impression material was introduced into each embrasure space to capture the inter-dental spaces. Care was taken to record the entire details of the buccal vestibule from premolars to premolars. This enabled the gingival mask to fill the inter-dental spaces, so that it reduced lipping by preventing the air to escape from the inter-dental spaces. This also aids in providing additional retention. The tray was carefully fitted into place and the impression was allowed to set. Then the tray was removed from the mouth taking great care not to tear the inter-dental tags, which represented the embrasure spaces. Cast was obtained and a wax-up was carried out, which was processed in the usual manner as an acrylic removable denture. On completion of curing the mask was gently removed from the flask, trimmed, finished and polished. The mask was tried in the mouth and, if necessary, trimmed to remove excess material till an accurate fit is obtained. The mask was checked for plaque control and cleanliness at each recall visit. 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. The importance of persistent plaque control in the ongoing prevention of both caries and periodontal disease was emphasized. ^[2, 5]

III. Discussion

Surgical correction of periodontal defects prior to prosthetic reconstruction is a valuable therapy. However, dramatic esthetic results have been achieved using gingival veneers. The cosmetic benefit restores the self confidence of the patient and enables the patients to smile again. 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. ^[3]The veneer can also be used in the management of acute gingival conditions like desquamative gingivitis. ^[6]The aim is to restore the mucogingival contour and improve the compromised appearance associated with lost periodontal tissues. ^[3]Advances in the field have also enabled fabrication of gingival masks as a chair side procedure using visible light cured acrylic material directly in the mouth ^[8]

Another alternative is the use of a flexible gingival mask made of silicone. This is both comfortable and accurately fitting. The main drawback is that it requires reconstruction once ever year, as the prosthesis loses its physical properties like color, flexibility and also dimensional changes are observed. ^[9] Plaque control and cleanliness are of prime importance. Smoking and frequent drinking of tea or coffee are discouraged.

IV. Conclusion:

The acrylic resin gingival veneer is an easily constructed, inexpensive, and practical device to optimize the esthetic and functional outcome in these special situations while permitting cleansibility of the prosthesis and supporting tissues. Thus in the present case acrylic gingival veneer has been used successfully and a 2 year follow-up has produced any problems indicating that such prostheses can be made use of effectively whenever indicated.

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LEGENDS FOR PHOTOGRAPHS



Figure 1. – Pre-treatment showing gingival recession and fluorosis



Figure 2. – Treatment of anterior with composite veneers



Figure 3. – Post-treatment with the gingival mask simulating the lost tissue.