

Esthetic Management of Gingival Recession: Use of Gingival Veneer

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Abstract:

The loss of hard and soft tissue in maxillary anterior region may cause functional, phonetic, and esthetic problems including disproportional and elongated clinical crowns, visible interdental embrasures, and altered linguo - alveolar and labio - dental consonant production. Gingival prosthesis is of great importance in masking such defects, thereby improving esthetics and phonetics of the patients with recessed periodontal tissues. In such situations, an acrylic resin gingival veneer proves an inexpensive and practical device to optimize the esthetic and functional outcome which can be easily constructed. This article presents a case which was managed using acrylic gingival veneer.

Key words:

Black triangles, esthetics, gingival veneer

Introduction

The area of soft tissue and teeth displayed, when a patient smiles is often referred to as the esthetic zone and usually includes the teeth in the maxillary arch anterior to the second premolar. Periodontal attachment loss in this region can often lead to esthetic and functional problems. One of the problems is the visible interdental space or black triangles.

Black triangle can be defined as "Any interproximal soft tissue loss due to periodontal disease, traumatic, mechanical or chemical preparation or crown lengthening procedures"⁽¹⁾. These lead not only esthetic and phonetic problems but also difficulty in maintaining oral hygiene. Concurrent with the desire for improved oral function is the desire to maintain optimal esthetics. Patient's awareness and expectations have increased to the point that less than optimal esthetics is no longer accepted. Therefore selecting the best esthetic prosthetic treatment for teeth with gingival recession in the anterior region may be challenging⁽²⁾.

Surgical techniques advocated for recreating gingival architecture around recession or alveolar defects are technique-sensitive, may require a graft from an additional surgical site with consequent additional morbidity and have unpredictable outcome when used to replace a large volume of tissue. A remarkably simple, yet affective procedure for the management of both gingival recession and loss of inter dental papilla is the use of gingival prosthesis⁽³⁻⁵⁾.

A gingival veneer is a prosthesis worn in the labial aspect of the dental arch, which aims to restore the mucogingival contour and esthetics in areas where periodontal tissues are deficient⁽⁴⁾.

Also known as gingival mask, gingival epithesis or the artificial gums, they were first introduced in 1955 by Emslie to mask the unesthetic appearance of gingival recession in a patient who underwent a gingivectomy⁽⁶⁾. The veneers were accepted very well by patients because of the improved esthetics. They have also been used as a vehicle for delivering topical medications such as topical fluoride, 4 triamcinolone 0.1% in dental paste in

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the treatment of desquamative gingivitis ⁽⁷⁾, and as a carrier for periodontal dressings ⁽⁸⁾.

Various materials that can be used for fabrication of gingival veneers include ⁽³⁾

- i) Auto and heat polymerizing acrylic resins
- ii) Copolyamide
- iii) Soft silicone materials

The indications of gingival veneers include ⁽³⁾⁽⁴⁾:

1. Poor aesthetics due to interdental black triangles, exposed root surfaces, and/or crown margins
2. Food packing in interdental spaces
3. Lack of saliva control
4. Impaired phonation
5. Root-dentine sensitivity
6. In inter dental defects with > 5 mm gap between contact point and alveolar crest
7. When the patient cannot undergo repeated surgical procedures

The contraindications include ⁽³⁾:

1. Allergy to the fabrication materials
2. Patients with poor or unstable periodontal health
3. Poor oral hygiene
4. Patients with high caries activity
5. Limited manual dexterity
6. Allergy to fabrication materials

Case report

A 35 year old female reported to the dental department of NAMS, Bir Hospital complaining of gaps between her front teeth which lead to unpleasant smile. On clinical examination, there was bleeding on probing, gingival recession and periodontal pockets of around 6-8 mm. In addition, there were black triangles present between the maxillary anterior teeth due to loss of interdental tissues.(Fig 1)

OPG Radiograph(Fig 2) revealed horizontal bone loss. The diagnosis of chronic generalized periodontitis was made. After the successful completion of her phase 1 Therapy, conventional flap surgery was performed to maintain her periodontal health because pockets were present

after phase I therapy.

On 6 months post-operative recall it was noticed that there were reduced bleeding scores, improvement in the clinical attachment levels and reduced probing depths. Gingival Veneer was planned to address her problem of esthetics and was fabricated .

Impression was made using elastomeric impression material(Fig 3). The cast was prepared using type III die stone and wax up was done and veneers were fabricated with heat cure acrylic using lost wax technique(Fig 4). Gingival veneers was then subjected to finishing and polishing(Fig 5) . After veneer placement, patient was confident to smile then previously where she was reluctant to smile(fig 6 and 7)

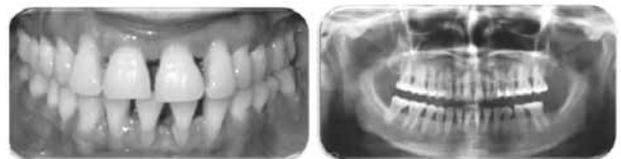


Fig 1 and Fig 2: Preoperative view of patient's dentition and OPG Xray

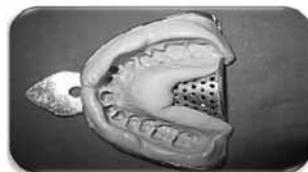


Fig 3: Impression was made using elastomeric impression material



Fig 4: The cast was prepared using type III die stone and wax up was done and veneers were fabricated with heat cure acrylic using lost wax technique

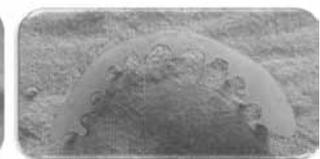
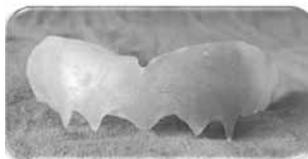


Fig 5: Gingival veneers after finishing and polishing



Fig 6: Before veneer placement, patient with a reluctant smile



Fig 7: veneer placement, patient with confident smile

Discussion

Many therapeutic options has been suggested for the management of gingival recession which include: the use of desensitizing agents, varnishes ,dentine bonding agent, tooth colored composite restoration, pink porcelain or composite, gingival veneers, orthodontic therapy and surgery ⁽⁵⁾.

Tooth colored composite over the exposed root surface was unacceptable in this case as it could result in longer clinical crown height which was esthetically unacceptable because of high smile line. Difficulties associated pink porcelain or composite would be getting a good color match of the restorative material with the gingival tissues, moisture control from the gingival crevicular, fluid technique sensitivity and cost.

Although many surgical procedures have been proposed for augmentation of bone and soft tissue structures, predictable results may not be routinely achievable^(9, 10). Surgical techniques to graft multiple sites to replace lost tissue was unpredictable because of large volume had to be replaced and patient was unwilling to further undergo additional surgical procedure. Hence an acrylic gingival veneer was planned.

Among various materials, acrylic resin is widely available and relatively cheap. It allows for adequate polishing of final prosthesis ensuring a smooth surface and its shade can be matched to adjacent gingival tissues so marked esthetic results can be obtained. Veneer is removable for convenient home care and easy to maintain. This also provides non-invasive and a painless option. Hence, in the present case, this material was chosen to construct gingival veneer.

Several disadvantages are also present such as poor patient compliance, food impaction and associated bacterial growth, chances of breakage or discoloration of the prosthesis. Acrylic materials are hard, rigid, prone to fracture and difficult to fit around teeth. In comparison, silicone materials are more flexible, have improved comfort and increased resistance to fracture and polymerized acrylic show greater color stability than silicon or copolyamide⁽¹¹⁾. To avoid plaque accumulation, mechanical brushing of the prosthesis should be taught to the users. Some disinfectants and denture cleansers are available and can be used to clean the acrylic-based gingival prosthesis, as well as there is a need for regular supervision by the clinician.

Conclusion

The loss of interdental papillae in maxillary anterior region can often lead to esthetic and functional clinical problems. In such cases, it is very challenging for the clinician to provide an optimum functional and esthetic solution for the missing gingival tissues and simultaneously to

preserve to periodontal health. Marked esthetic results can be achieved with gingival veneers when used to correct deformities after periodontal therapy for replacing lost tissues where a large amount of tissue is missing.

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