

## ORIGINAL RESEARCH

### Esthetic alternative for lost gingiva

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#### ABSTRACT:

**Background:** To evaluate the esthetic alternatives for lost gingiva. **Materials & methods:** Two cases were studied. Black triangles were present between the maxillary and mandibular anterior teeth due to loss of inter dental tissues, caused by recent periodontal surgery. Complete examination was done. Subjects had slightly malposed maxillary anterior teeth. The results were recorded. **Results:** The teeth were isolated and acid etched with 35.0% phosphoric acid for 15 s. Teeth were blotted dry and dental adhesive bonding agent was applied. Composite was completed on the maxillary teeth (16, 15, 14, 13, 12, 11, 21, 22, 23, and 24) before placement on the mandibular teeth (34, 33, 32, 31, 41, 42, 43, and 44). Finally, the mandibular incisal edge shape was altered by enameloplasty (31, 32, 41, and 42), producing a more youthful and aesthetically pleasing smile. While pre- and post-operative aesthetic anticipation of the patient's restorations in the new smile design that is satisfactory at 18 months post restoration. **Conclusion:** Composite resin veneers were successfully placed to alter midline and achieve better tooth colour.

**Keywords:** gingival loss, esthetics, periodontal disease.

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#### INTRODUCTION

Periodontal disease may lead to bone loss and soft tissue loss resulting in enlarged gingival embrasures and increased crown length causing esthetic problems.<sup>1,2</sup> Selecting the best esthetic and prosthetic treatment for teeth with gingival recession in the anterior region may be challenging. In these situations, lip line, gingival line, and anatomic crown length are important factors for esthetic results.<sup>3</sup> Gingival replacement prostheses have historically been used to replace lost tissue, when other methods (e.g., surgery or regenerative procedures) were considered unpredictable or impossible. With relatively new method, in this case, large tissue volumes are easily replaced. Gingival prostheses take several forms, and many authors have described their uses and methods of construction.<sup>4-6</sup>

Aesthetic dentistry involves harmonious integration of smile design, conception, and material selection. This is accomplished by a comprehensive knowledge of facial aesthetics, tooth morphology, available restoration techniques, and communication skills. An understanding of smile components, teeth, gingival tissues, and lips, is crucial. The maxillary central incisors are the visual focal point for the smile, and

they should be dominant and symmetrical. The ideal gingival levels are determined by establishing the correct width-to-length ratio of the maxillary anterior teeth.<sup>7,8</sup> Generally, gingival tissue runs parallel to the upper lip and its architecture is bilaterally symmetrical. The zenith of this tissue on the maxillary central incisors and canines is skewed slightly to the distal side. The soft tissue height of the maxillary lateral incisors is approximately 1–2 mm in cisal in comparison to the tissue height of the maxillary centrals and canines when a line is drawn from central incisors to canine tissue zeniths. The gingival embrasures should be bilaterally symmetrical and allow for inter dental papillary architecture.<sup>9,10</sup> Hence, this study was conducted to evaluate the esthetic alternatives for lost gingiva.

#### MATERIALS & METHODS

Two cases were studied. Black triangles were present between the maxillary and mandibular anterior teeth due to loss of inter dental tissues, caused by recent periodontal surgery. Complete examination was done. Subjects had slightly malposed maxillary anterior teeth. The patient elected to replace gingival tissue with pink composite resin and to alter the midline

with composite resin veneers. The first treatment phase involved placement of pink gingival composite to restore the appearance of inter dental papilla to her upper (16, 15, 14, 13, 12, 11, 21, 22, 23, and 24) and lower (34, 33, 32, 31, 41, 42, 43, and 44) teeth. The results were recorded.

## RESULTS

The teeth were isolated and acid etched with 35.0% phosphoric acid for 15 s. Teeth were blotted dry and dental adhesive bonding agent was applied. The pink gingival composite was scalloped between the teeth and natural gingiva without preparation. The gingival base was made in layers to create the proper contours without any overhang of material. The material was light cured for 40 s using a light-emitting diode (LED) curing unit. Composite was completed on the maxillary teeth (16, 15, 14, 13, 12, 11, 21, 22, 23, and 24) before placement on the mandibular teeth (34, 33, 32, 31, 41, 42, 43, and 44). Composite resin veneers were placed on maxillary teeth (16, 15, 14, 13, 11, 12, 21, 22, 23, and 24). Shades A2B, A2E, and YT were placed along the labial enamel to mimic natural teeth. The composite material was sculpted by free-hand layering using a Greenstein Colour composite instrument and each layer was cured for 10 s. Finally, the mandibular incisal edge shape was altered by enameloplasty (31, 32, 41, and 42), producing a more youthful and aesthetically pleasing smile. While pre- and post-operative aesthetic anticipation of the patient's restorations in the new smile design that is satisfactory at 18 months post restoration.

## DISCUSSION

The emerging field of "cosmetic periodontics" has come about through collaboration between dentists, orthodontists, and periodontists. Features that define a desirable smile have been refined while retaining consideration and respect for individual variations.<sup>11</sup> Challenging cases involving the anterior area require a more comprehensive approach and a deeper understanding of the pink component of the smile, the gingiva. The gingival architecture represents the frame for the teeth. If it is not restored correctly, either surgically or prosthetically, it will impair the final three dimensional aesthetic.<sup>12,13</sup> Hence, this study was conducted to evaluate the esthetic alternatives for lost gingiva.

In the present study, the teeth were isolated and acid etched with 35.0% phosphoric acid for 15 s. Teeth were blotted dry and dental adhesive bonding agent was applied. The pink gingival composite was scalloped between the teeth and natural gingiva without preparation. The gingival base was made in layers to create the proper contours without any overhang of material. The material was light cured for 40 s using a light-emitting diode (LED) curing unit. Composite was completed on the maxillary teeth (16, 15, 14, 13, 12, 11, 21, 22, 23, and 24) before placement on the mandibular teeth (34, 33, 32, 31, 41,

42, 43, and 44). Composite resin veneers were placed on maxillary teeth (16, 15, 14, 13, 11, 12, 21, 22, 23, and 24). A study by Wahbi MA et al, showed gingival recession causes not only aesthetic problems, but problems with oral hygiene, plaque accumulation, speech, and tooth sensitivity. Replacing the missing gingival tissue with composite resin, when indicated, can be a time- and cost-effective solution. They reported the case of a 25-year-old female who presented with generalized gingival recession. The first treatment phase involved placement of pink gingival composite to restore the appearance of interdental papilla to her upper (16, 15, 14, 13, 12, 11, 21, 22, 23, and 24) and lower (34, 33, 32, 31, 41, 42, 43, and 44) teeth. Phase two was to place direct composite resin bonded veneers on her upper (16, 15, 14, 13, 12, 11, 21, 22, 23, and 24) teeth to alter the midline and achieve desired colour. The third treatment phase was to level the lower incisal edge shape by enameloplasty (31, 32, 41, and 42) to produce a more youthful and attractive smile. The case report and brief review attempt to describe the clinical obstacles and the current treatment options along with a suggested protocol. Use of contemporary materials such as gingival coloured composite to restore lost gingival tissue and improve aesthetics can be a simple and cost-effective way to manage patients affected by generalized aggressive periodontitis (AgP).<sup>14</sup>

In the present study, shades A2B, A2E, and YT were placed along the labial enamel to mimic natural teeth. The composite material was sculpted by free-hand layering using a Greenstein Colour composite instrument and each layer was cured for 10 s. Finally, the mandibular incisal edge shape was altered by enameloplasty (31, 32, 41, and 42), producing a more youthful and aesthetically pleasing smile. While pre- and post-operative aesthetic anticipation of the patient's restorations in the new smile design that is satisfactory at 18 months post restoration. Ankli V et al, reported a gingival veneer as a viable treatment modality to mask peri-implant marginal gingival defects. An impression of the upper arch was made and the gingival veneer was waxed, and clinical confirmation was obtained, followed by laboratory processing, finishing, and polishing. After installing, it adapted to the proximal niches and exhibited good stability. A gingival veneer can be a feasible alternative with excellent esthetic results, when indicated and correctly executed to mask possible defects in the peri-implant marginal gingiva associated with a malpositioned single dental implant.<sup>15</sup> Goncalves LM et al, showed that the rotational path of insertion concept for removable partial dentures (RPDs) can be used in esthetically demanding situations. The clinical report describes the treatment of a patient with an anterior maxillary edentulous area using a rotational path RPD. To optimally improve gingival esthetics and to allow proximal retention on the surveyors, a crown-

lengthening surgical procedure was performed prior to prosthetic treatment on all teeth involved in this rehabilitation. When correctly planned and fabricated, this prosthesis allows excellent functional and esthetic results, minimizes tooth preparation, and reduces the tendency toward plaque accumulation.<sup>16</sup>

## CONCLUSION

Use of pink composite for restoration of the gingiva allows immediate results at a relatively low cost without potential surgical postoperative recovery complications. Composite resin veneers were also successfully placed to alter midline and achieve better tooth colour.

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