Laminate veneers: Promising the best aesthetic outcome!

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Abstract: Background: Laminate veneers are a conservative alternative to full coverage crowns for improving the appearance of the anterior teeth. Adhesive technologies make it possible to bond the prosthesis whilst preserving the tooth structure. Immediate results are achieved since the prosthesis could be delivered within a few days. Ceramics are aesthetic, biocompatible, wear-resistant, exhibit excellent colour stability and present a thermal coefficient of expansion similar to enamel. Hence prove to be the most desired material for laminate veneers. **Case Description:** This case report describes a treatment plan that serves as a functional and aesthetic alternative, for mild spacing in anterior teeth wherein only aesthetics is of concern. Veneer preparation was done on the 11,12,13,21,22,23 teeth with minimal tooth reduction (0.5 mm) on the enamel only. All-ceramic veneers were bonded to the teeth with light cure resin cement to achieve the desired aesthetic results. Smile aesthetics can be achieved only when there is harmony between the teeth and face. With proper diagnosis and treatment planning, a desirable aesthetic result was achieved. **Clinical Signification:** Smile designing includes scientific and artistic principles, which help in creating an aesthetic smile. These norms were found through the collection of data from patients, diagnostic casts, mock wax-ups, measurements, concepts of beauty and golden proportions.

Keywords: Laminate Veneers, smile designing, aesthetic restoration

Introduction: With fewer preparations, newer materials have improved procedures for anterior teeth in need of repair.[1,2] As an alternative to complete crowns, indirect veneering of the tooth was launched in the 1980s. The idea of very little or minimal preparation emerged after the development of effective enamel bonding processes.[3] Modern breakthroughs in resin cement, glass-ceramic, and adhesive systems have allowed restorative dentistry to concentrate on minimally intrusive techniques. Veneers made of porcelain laminate have grown in acceptance and are now often used in dentistry. Their exceptional aesthetics, durability, and biocompatibility make them a potential option for treating anterior teeth.[4,5]

The focus of restorative dentistry has shifted to less intrusive procedures as a result of developments in different materials.[6] The least intrusive treatment choices can be considered and choose based on the paperwork, castings, and images.[7] Planning, the kind of preparation, the choice of materials, and maintenance of the restoration are some of the variables that should be taken into account in this situation.[8] The cosmetic restoration of anterior teeth using various porcelain laminate veneer thicknesses is covered in this essay, along with the longevity of these veneers.

Case report: A 26 years old female visited the department of Prosthodontics, with a chief complaint of poor aesthetics due to spacing in the upper anterior teeth. No significant past dental

or habit history was noted. A thorough intraoral examination showed a 4 mm diastema present between maxillary central incisors. After taking proper consent from the patient and explaining the treatment plan, alginate impressions were taken (Fig. 1A, 1B) to obtain a diagnostic cast (Type IV dental stone). Facebook records, centric bite, and protrusive records were made and casts were mounted on the Hanau articulator. A2 shade on incisal and middle third and A 2.5 shade on cervical third with incisal translucency was planned. On the model so received, a diagnostic wax mock-up is done with teeth i.e. 11, 12, 13, 21, 22, and 23. A putty index is made and with a putty index bisacodyl temporary test drive is given for the patient (Fig. 2).

After mock-up approval from the patient, tooth preparation was started on the planned teeth. Initially, depth cutting bur (0.5 mm) was used to make depth groves (Fig. 3). Round end-cutting tapered diamond bur was used for preparation and equigingival chamfer margin was given. With the putty index, all the preparation was evaluated.

Final impression: According to the gingiva, a gingival cord size 000 threaded with the hemostatic agent was used to retract the gingiva (Fig 4). Final impressions were made with single-stage addition silicone impression material. Temporary prosthesis cementation was done by the three-dot technique with composite. Impressions were sent to the lab for fabrication of the veneers. A bisque trial was done for the prosthesis. After desired correction final cementation was done with resin cement (Fig 5). All post-operative instructions were duly given to the patient.

Discussion: This case report gives an approach to restoring the anterior teeth with minimal preparation technique. Laminate veneers with the advancement of better enamel bonding materials and with a specific bonding procedure have paved the way for better aesthetics in the anterior esthetic region. In terms of preparation, complete crowns are more aggressive than ceramic laminate veneers. All indications for porcelain laminate restorations include changes in tooth form or orientation, changes in crown structure with microdontia, and the appearance of diastemas.[9] Teeth that require morphologic alterations and diastema closure are candidates for non-invasive or minimally invasive laminate veneer preparation. Any of these characteristics must be evaluated for severity and scope since they will dictate the therapy goals, which are as much about restoring the right function as they are about the aesthetic outcome.

A variety of materials, including feldspathic ceramics, hybrid composites and high-density ceramics (alumina, glass-infiltrated zirconia, zirconia), could be used to create additional veneers. Lastly, the prosthesis made with CAD-CAM necessitates further changes in the anterior area for translucency qualities, and there is now no ideal adhesive cementation protocol available. The juxta or supragingival area is the most common location for indirect veneer borders from a biological standpoint; it has been proven that an extra-sulcular placement can give acceptable soft-tissue health. As a last piece of advice, the operator should arrange a comprehensive follow-up program and provide patients with proper guidelines for maintaining and preserving the achieved success, just as he or she would after delivering many other types of indirect restorations.

Conclusion: The restoration of anterior teeth with ceramic laminate veneers is one of the most minimally invasive techniques to restore these teeth. These restorations provide the best aesthetic results with a long-term success rate. These materials also prove to be very biocompatible to the oral tissues. Hence, with proper knowledge and skills, laminate veneers prove to be an excellent choice of treatment for aesthetic needs.

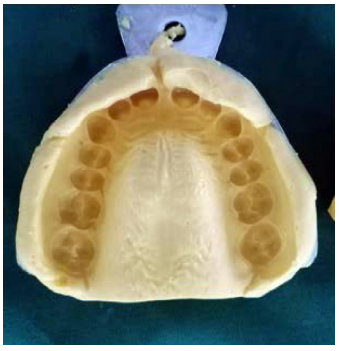

Figure 1 A Diagnostic impression

Figure 1 B Diagnostic impression

Figure 2 Test drive

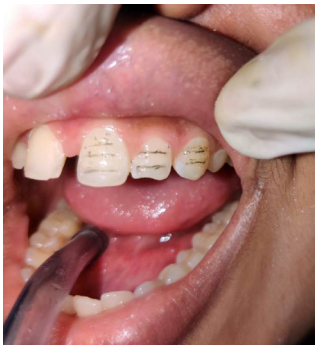

Figure 3 Depth groove

Figure 4 Tooth preparation with gingival cord retraction

Figure 5- Final Restoration

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