CASE REPORT

ABSTRACT

Esthetic treatment of diastema closure, malformed or discolored anterior tooth presents a challenge in clinical practice. The best treatment option for these problems includes laminates, which are thin shells of ceramics known as porcelain veneers and can be bonded to the facial surface of anterior teeth. This article reports the management of two different cases in which ceramic veneer used to achieve the desired esthetic results.

Key Words: Porcelain laminate veneers; esthetics; discoloration; diastema.

Introduction

Veneers have revolutionized esthetic dentistry. Veneer is a thin layer of tooth-colored restorative material that is applied to a tooth to restore localized or generalized defects, intrinsic discoloration or improve the esthetic appearance. They are made of either by directly applying composite on the tooth surface or cementing processed composite, porcelain or pressed ceramic materials. Their conservative tooth preparation, non-invasive approach creates remarkable smile in just two sittings. When these are bonded to enamel they take up the strength of enamel and become as strong as the natural tooth structure. Common indications of veneers are unsightly spaces between teeth, discolored teeth (tetracycline stained or fluorosed teeth), malformed, abraded or eroded teeth. This article reports the management of two different cases in which ceramic veneer used to achieve the desired esthetic results.

Case 1: (Correction of Midline Diastema)

A 22 year old boy presented with a chief complaint of spacing in his upper front teeth and desired to have his teeth cosmetically corrected. Following a complete intraoral examination, it was noted that patient had diastema between maxillary central incisors and sharp irregular incisal edges. Feldspathic porcelain veneers were planned in both central incisors. (Fig.1, Fig.2) Tooth reduction was started by creating vertical orientation grooves on labial surface with a three tier diamond depth cutter to a depth of 0.5 mm. Remainder of the tooth surface was reduced using round end tapered diamond point. The preparation was extended more mesially so as to ensure that the restoration–tooth interface is hidden. Two mm of the incisal edge was also removed and incisal lapping preparation was done. Chamfer margin was prepared and finishing was done using extra-fine diamond point.

A final impression was made using a 2-step polyvinyl impression technique (1st Impression, Den-Mat) and sent to the lab with the instruction for etching the inner surface of veneer with hydrofluoric acid with application of silane coupling agent. The veneer was fabricated with a feldspathic porcelain material following the manufacturer’s recommendations. At second visit the tooth surface was cleaned using slurry of pumice and gingival retraction cord was placed to control the gingival crevicular fluid. Acid etching of the teeth was done for 15 sec and the etchant was thoroughly rinsed off. All the teeth surfaces and inner surface of veneers were coated with bonding agent in thin layer and light polymerized for 25-30 sec. Dual cure composite luting agent (Variolink-II, Ivoclar) of appropriate shade was selected and placed in the laminates. These were placed on the teeth surfaces, margins were checked for proper seating, pressure was applied and initial polymerization was done for 5 sec to remove excess luting agent and cured for 60 sec on each tooth. Extra-fine diamond points were used to refine the margins. This gave the patient a dramatic improvement to his smile and overall self-esteem.

Case 2 (Correction of Discolored Teeth)

A 25 year old female patient reported with a chief complaint of unattractive smile due to discolored teeth. On clinical examination and careful history taking it was found that the patient’s mother had taken drugs during her pregnancy leading to generalized discoloration of teeth the condition was diagnosed as dental fluorosis. It was decided to restore all the maxillary and mandibular anterior teeth with porcelain veneers. (Fig.3 Fig. 4)

Irregular incisal edges and 0.5mm facial enamel of the maxillary and mandibular teeth were reduced. Canine to canine of both arch were modified using fine finishing diamonds. The gingival retraction was done with single cord technique and final impression was made using putty-wash (aquaqsil, Dentsply) multiple mix technique. On second visit maxillary and mandibular veneers were checked of contours, interproximal area and proper seating of veneers. Bonding and luting agents were applied as described before and final evaluation was done.

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Impressions were sent with instruction of etching the inner surface of veneer with hydrofluoric acid as it creates a retentive etch pattern leading to micromechanical locking of resin composite on bonding. Horn\textsuperscript{13} and Simonsen and Calamí\textsuperscript{14} demonstrated that the bond strength of hydrofluoric acid-etched and silanated veneer to the luting resin composite is generally greater than the bond strength of the same luting resin to the etched enamel surface.\textsuperscript{15}

**Conclusion**

Ceramics veneers are the most natural appearing translucent materials to achieve ultimate esthetic results. It behaves similarly to natural teeth in terms of strain and stress transference. They have inherent quality to reflect, refract, disperse and absorb light. They require minimal tooth reduction when compared to conventional metal ceramic or all ceramic crowns.

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**References**

9. Small B. Location of incisal edge position for esthetic restor-


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