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Aesthetic correction of spaced dentition with Emax lithium disilicate veneers: Case report

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Abstract

Various different procedures have been advocated in literature to correct dental anomalies specially in the aesthetic region such as discolouration of tooth due to fluorosis or spacing in dentition due to change in shape of tooth like peg laterals. One of the most common treatment modalities to treat such cases are using VENEERS. This case report presents conservative and aesthetic procedure in the management of closing the space occurred due to peg laterals using E max lithium disilicate laminate veneers.

Keywords: Emax lithium disilicate veneers, peg laterals, conservative procedure

Introduction

Ceramic laminate veneers are also known as “contact lenses,” and are capable of providing an extremely accurate reproduction of natural teeth with great color stability and also very conservative treatment approach [1]. As stated by Muller de van in 1952 “the preservation of that which remains is of utmost importance and not the meticulous replacement of that which has been lost”, so in that, context veneers are good alternative to restore the aesthetic of patient without doing much changes in existing condition of tooth. Laminate veneer is a tooth-colored material and is a conservative treatment alternative to full-coverage restoration that has evolved since 1983 to harmonize the aesthetics [2]. Studies have shown to have good success rate of more than 10 years for veneers [3, 4]. Veneers are also biologically compatible with periodontium [5] The present case report describes the treatment of spaced dentition due to morphological altered tooth in the anterior dentition with thin porcelain laminate veneers, to restore esthetics and function.

Case report

A 24 years old male reported to the department of prosthodontics with the chief complaint of spacing between the tooth in anterior region and wanted aesthetic space closure. A detailed family history, medical history and dental history was obtained. In family history, none of his family members had similar problem. Extra oral examination could elicit no abnormal findings. Intra oral examination reveals spacing between 12, 13 and 22, 23 and also lateral incisors represent a morphological anomaly ie peg lateral. All teeth were vital and had no hypersensitivity. No carious teeth were present. Generalized gingival inflammation was noted and on probing mild bleeding was found. Moderate amount of calculus and stains were present. Treatment for oral hygiene improvement was done. treatment options like full ceramic crown and veneers were given to patient, Owing to its minimally invasive nature and excellent aesthetic qualities it was decided to enhance her appearance using E max lithium disilicate veneers .

Procedure

Types of preparation for veneers plays an important role in success of veneers. there are 4 types of preparations are present

- a. window
- b. bevel

- c. feather
- d. incised overlap

out of these four type incised overlap has the highest success rate. (6, 7). Fig 1

- Preoperative photos and impression of both arches were obtained. Shade selection was done in natural daylight using a color scale (VITA Toothguide 3D-MASTER, Zahnfabrik H. Rauter GmbH. & Co.KG Spitalgasse, Germany).
- Depth orientation grooves were placed on facial surface providing a depth of 0.3mm on gingival region and 0.5mm on incisal half using diamond bur [8]. The remaining tooth structure was removed using round end tapered diamond bur. Chamfer finish line was given at the level of gingival crest.
- Tooth preparation proximally was extended to contact areas without breaking contact to conserve interproximal enamel. An overlapped incisal edge preparation was chosen, which provides a vertical stop to aid in correcting the positioning of the veneer.
- Veneers were etched with 5% hydrofluoric acid for 20s. Veneers were washed and dried. The inner surface of veneers was coated with silane-coupling agent (Monobond N; Ivoclar Vivadent, AG Schaan Liechtenstein USA) and allowed to dry for 1min. Then, the etching of the teeth was carried out with 37% phosphoric acid for 15–20s, rinsed thoroughly with water, and dried. A layer of bonding agent (Adper; 3M ESPE, St. Paul, MN, USA) was applied on tooth surface and cured for 20s. Veneers were bonded to teeth with dual cure resin cement (RelyX; 3M ESPE).

Discussion

The main advantage of laminate veneers is that they are very conservative of tooth structure. Typically, only about 0.5 mm of facial reduction is needed. Because this is confined to the enamel layer, local anesthesia is not usually required. The main disadvantage of the procedure relates to difficulty in obtaining restorations that are not excessively contoured. This is almost inevitable in the gingival area if enamel is left for bonding. The long-term success of ceramic veneers depends

on proper case selection and treatment planning procedures such as shade selection, tooth preparation, cementation technique, and patient maintenance. Therefore, the case must be selected carefully and properly planned treatment should be done.

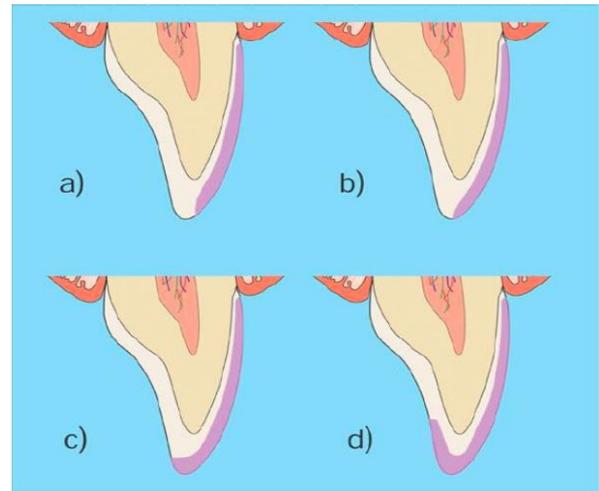


Fig 1: Incisal preparations are possible for veneers: a) window, b) feather, c) bevel or d) incised overlap (8)



Fig 2: Intraoral frontal view



Fig 3: Left lateral and right lateral representing spacing due to peg laterals



Fig 4: Minimal tooth preparation done int 22 and 12



Fig 5: Incised overlap of veneers can be seen .irt 22, 12

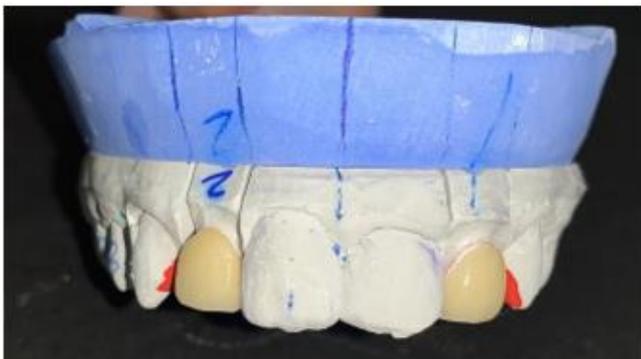


Fig 6: Emax lithium disilicate veneers irt 12, 22.



Fig 7: Spacing is closed using veneers

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Conclusion

The veneers are very technique and material sensitive but if used with proper knowledge and skill, these restorations provide the best esthetic and functional outcome.