



Esthetic and Conservative Treatment Approach for Discolored Teeth: Case Report

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Abstract

Ceramic veneers can be offered as a treatment option in a wide variety of case, such as correcting tooth defects, abrasion, malalignment, diastema, tooth discoloration, coronal fracture or to adjust occlusion. Minor changes of shape, shade and position of teeth with ceramic veneers can dramatically alter the appearance of our patients. This paper describes the esthetic rehabilitation and smile designing of patients presenting with different problems with ceramic veneers.

Keywords: *Ceramic Veneers, Smile Designing, Dental fluorosis.*

INTRODUCTION

All ceramic restorations have gained wide acceptance as a primary mode of restoration in esthetic dentistry.¹ as patient's esthetic expectations continue to increase, dental teams are challenged to identify a systematic approach for achieving natural oral and facial esthetics with ceramics. Advances in ceramic materials and veneering techniques allow practitioners to restore function and esthetics using conservative and biologically sound methods as well as promoting long term oral health.^{2,3}

Conventionally, all ceramic crowns and veneers were indicated to correct unacceptable or peculiar tooth contour, interdental spacing, gingival recession, malpositioned teeth, mask tooth discolorations or to address minor tooth alignment issues.^{4,5} however, the latest trends advocate the correction of minor or severe tooth alignment concerns involving healthy teeth.⁶ this refers to the treatment option of correcting minor or even severe malocclusions using restorative procedures.^{7,8}

Esthetics, treatment planning and clinical care should be considered in accordance with interrelationship between the teeth, gingival tissues, lips and face. Consideration as to how the facial and psychological parameters can influence a natural smile design must also be taken in to account. Because ceramic veneers and crowns are primarily indicated for the improvement of esthetics, the design of smile should respect the symmetry and the harmonious arrangement of dentofacial elements.^{9,10}

CASE REPORT

A 21 years old male reported with a chief complaint of compromised esthetic due to discoloration of teeth (Fig.1). on clinical examination patient had generalized enamel fluorosis affecting all the permanent teeth. Confluent pitting was present on most of the surfaces of the teeth with widespread of yellow brown stains. Occlusion was in class I relationship. Oral hygiene was good. Radiographic evaluation showed good periodontal and pulpal health. Diagnosis of moderate dental fluorosis was made based on history, clinical examination and dean's index.

Treatment Plan

Basic oral prophylaxis was done for the patient and given the age of the patient and severity of fluorosis, ceramic veneers were best suited for the condition these veneers have the advantage of preserving most of natural tooth structure while achieving good cosmetic result. Patient was willing for the treatment of only maxillary six anterior teeth due to financial constraints.

The initial treatment started through full mouth scaling and polishing followed by a ten day gap to allow complete gingival health restoration. this was followed by smile analysis, preliminary shade selection, photographs and study models to evaluate the occlusion.

Next clinical appointment following silicone index preparation, final tooth preparation for ceramic veneers was performed (Fig 2) which was

followed by final shade selection and rubber base impression. The teeth were desensitized and temporization was done. Ceramic veneers were fabricated using pressable ceramic system(Pressed ceramic veneers IPS e-max, ivoclar Vivadent). The correct fit of veneers was verified both individually and collectively on the model and then on teeth. The patient was satisfied with form shape and shade of veneers. Final cementation was done with rely-x u-200, 3M ESPE dual cure luting composite. The contacts and occlusion were checked. Post operative photographs (Fig 3,4) and instructions concerning oral hygiene and avoidance of habits causing trauma to veneered teeth given.



Figure 1



Figure 2



Figure 3



Figure 4

DISCUSSION

The case report describes about the esthetic management of moderate to severe fluorosis patient with ceramic veneers. Fluorosis is endemic in some areas of northern India as a result of drinking well water with high fluoride content. Bleaching or microabrasion of severely fluorosed teeth is often ineffective or gives transient results, while composite resin veneers not only discolour and wear with time, but quite often become chipped or debonded. As glazed ceramics retain its colour while being wear resistant, highly biocompatible and a life like esthetics. ceramic veneers can be restorative material of choice for severely fluorosed teeth. One of the biggest advantage of is that they are extremely conservative of tooth structure. Also ceramic veneers offer a predictable and successful

restoration with an estimated survival probability of 93.5% over 10 years. The properties of dental ceramics like colour stability, mechanical strength, clinical longevity, esthetic appearance and compatibility with periodontal tissues make the material a good choice for such treatment. This case also highlights the proper planning and management of gingival soft tissues to achieve an esthetic outcome and mild orthodontic disparity in teeth has also been adequately managed without any orthodontic intervention.

CONCLUSION

The esthetic and restorative applications of dental ceramics have increased and will continue to evolve with time. However, the clinicians should be judicious in responding to the ever inflating esthetic demands of the patients. Like every procedure in dentistry, the success of ceramic veneers and crowns depend upon understanding the principles involved in their fabrication and application. The success of treatment can be assured, if the dentist follows a defined protocol with each patient to ensure that all factors such as smile design, margin placement material and shade selection are considered. Communication between patient, dentist and technician is of utmost importance. It is extremely important to procure an informed consent from the patients before considering such cases. It is also important to discuss the functional and biological implications of his or her choice.

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