

Esthetic Rehabilitation of Dental Fluorosis Patient with Direct Composite Veneer: A Case Report with One Year Follow Up

Mukesh Soni¹ Smita Parate^{2*} Deshraj Jain³

¹Associate Professor, Department of Prosthodontics, Government College of Dentistry, Indore, India.

²Post Graduate Student, Department of Prosthodontics, Government College of Dentistry, Indore, India.

³Professor and Head, Department of Prosthodontics, Government College of Dentistry, Indore, India.

ABSTRACT

Background: Esthetic restoration is very demanding nowadays as there are variety of procedure and techniques. The choice of restoration is based upon desire and preference of the patient. Composite veneers offer predictable results in esthetic dentistry associated with enamel preservation. There are two different type of veneers direct and indirect. In this case report direct composite veneer technique used for dental fluorosis patient is described and success in one year follow up is discussed.

Keywords: Direct composite veneer, dental esthetic, dental fluorosis.

INTRODUCTION

Smile is an important facial feature and Dental fluorosis affect smile. Dean et al classified dental fluorosis based on severity of enamel damage.^{1,2} Various treatment modalities available for esthetic rehabilitation like micro abrasion, tooth bleaching, direct composite veneer, indirect composite veneer, porcelain veneer, crowns.³ Severity of disease dictates choice of treatment. According to Peumans et al. direct composite veneers show 89% success rate after 5 years follow up.⁴ Direct composite veneering shows, minimal invasion and maximum preservation of sound tooth structure when compared to indirect restorations so it should be considered as primary treatment option.

CASE REPORT

A 19-year-old male patient reported to the department of prosthodontics in Government college of Dentistry, Indore having a chief complain of poor facial appearance while smiling due to discolored teeth since childhood. There was no history of tetracycline intake in childhood and

chewing habits. Medical history was not significant. Examination revealed moderate brown stained enamel surfaces in all teeth with a good periodontal status. No evidence of plaque accumulation or calculus formation was noted.

Temporomandibular joint was asymptomatic with bilaterally symmetrical Facial profile without any proclination. Differential diagnoses were- dental fluoris, idiopathic stains, tetracycline discoloration and hypoplasia was formed. Final diagnosis of dental fluoris classified as Dean's moderate type with rotated maxillary canine and mandibular lateral incisor (fig.-1). The treatment options included the use of vital bleaching, microabrasion, direct composite veneering, porcelain veneering and full coverage prosthesis. Various treatment options were explained to patient and finally direct composite veneering decided for maxillary and mandibular anterior teeth. Before beginning with the procedure, mock up done on cast using HANAU WIDE VUE articulator (fig.-2).

Supragingival scaling followed by shade selection was performed. The shade was selected A1 and A2

Received: Dec. 11, 2017; Accepted: Feb. 10, 2018

*Correspondence Dr. Smita Parate.

Department of Prosthodontics, Government College of Dentistry, Indore, India.

Email: smita02parate@gmail.com



Fig 1: Pretreatment intraoral photograph.



Fig 2: Mock up on cast using HANAU Articulator.



Fig 3: post operative photograph (Esthetically and functionally restored).

using the VITA Classical shade guide. The tooth preparation involved a light chamfer finish gingival margin on the facial surfaces and the preparation cleaned, water washed and dried. Patient was experiencing gagging with rubber dam so Cotton rolls and salivary ejectors were used for isolation of



Fig 4: One year follow up.

the operating area and gingival retraction cord was placed. The enamel surface was acid etched using 37% phosphoric acid (D-Tech Etching Gel, Kerr, USA) for 30 seconds, rinsed for 10 seconds, and dried. A bonding agent (Adper Single Bond, 3M ESPE, USA) was applied on the prepared enamel and cured for 10 seconds with the LED composite curing unit. A stratified layering technique was used to fill the tooth with Filtek™ Z350 XT (3M ESPE, USA) shade A1. The composite was light-cured for 40 seconds on each surface. Finally shaping was done with afluted caride bur on the facial surfaces, excess was removed and contouring at the gingival and labial margin performed. Finishing, contouring and polishing were done with a super snap mini kit (Shofu) and composite polishing paste (fig.-3). After completing the procedure Oral hygiene instructions were given. Patient was motivated for maintenance of oral hygiene and informed for regular recalls after 1 week, 6months and 1 year for follow up. There was no sensitivity or discoloration observed after follow up (fig.-4).

DISCUSSION

Excessive exposure to fluoride within the first year of life causes dental fluorosis.⁵ Esthetic rehabilitation of dental fluorosis patient with direct composite veneering offers good result and new smile to the patient in a single appointment. direct composite veneering is art and is highly technique sensitive, it is most commonly utilized form of veneering that allow operator to control and evaluate entire procedure from shade selection to final morphology usually in a single appointment. This form of treatment is very challenging for the dentist to fulfill the need of patient in budget.⁶ In this case patient could not afford extensive dental

treatment was treated with direct composite veneering and both esthetically and functionally acceptable results obtained. Direct composite veneers are indicated in this case because of conservative tooth preparation, single appointment procedure, cost effective, strength and excellent smoothness. Composite material can easily match almost any tooth color and contour and better marginal adaptation. direct composite veneers restoration is easy to polish and repair intraorally.⁷ It is relatively easy to use procedure, whereas ceramic veneers are more expensive and time consuming and done by a dental laboratory technician.⁸ In this case, the patient very much appreciated the treatment as he got sparkling smile with minimal cost. Patient was totally asymptomatic during the follow up period of one year and fully satisfied with the treatment.

CONCLUSION

The success rate of direct composite veneers is dependent upon case selection and skills by the dentist. It can be concluded that direct composite veneers provides good esthetic result at lesser cost and lesser time. This conservative technique is better option in treatment of dental fluorosis compared to other technique and provides psychological support to the patient.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Dean HT, Jay P, Arnold FA, Elvove E. Domestic waters and dental caries. II. A study of 2832 white children ages 12-14 years of eight suburban Chicago communities, including *Lactobacillus acidophilus* studies of 1761 children. Public Health Rep 1941;56:761-792.
2. Dean HT, Arnold FA, Elvove E. Domestic waters and dental caries. V. Additional studies of the relation of fluoride domestic waters to dental caries in 4425 white children, age 12-14 years, of 13 cities in 4 states. Public Health Rep 1942;57:1155-1179.
3. Anjum S, Wadhvani K K, Meena B. Treatment of generalized dental fluorosis with composite resin veneer using a minimally invasive technique: a case report and review. Indian Journal of Medical Case Reports 2012;Vol. 1 (1) April-June:40-43.
4. Peumans M, VanMeerbeek B, Lambrechts P, and Vanherle G. The 5-year clinical performance of direct composite additions to correct tooth form and position. I. Esthetic qualities. Clinical Oral Investigations 1997;vol.1, no. 1:12-18.
5. Ardu S et al. A minimally invasive treatment of severe dental fluorosis. Quintessence international june 2007;38(6):455-458.
6. Sheikh Z, Ghazali N , Sheikh A. Direct Composite Resin Veneer Technique: A Clinical Case Report of Management of Misaligned Dentition. International Dental Journal of Student's Research, January – March 2015;3(1):34-39.
7. Sowmya K, Dwijendra K. S, Pranitha V and Roy K K. Esthetic Rehabilitation with Direct Composite Veneering: A Report of 2 Cases. Case Reports in Dentistry, Volume 2017;Article ID 7638153: 1-3.
8. Jais P, Shah R, Sinhal T. Direct composite veneers an aesthetic alternative: case series with one year follow up. IOSR Journal of Dental and Medical Sciences Jan. 2016; Volume 15, Issue 1 Ver. X:78-82.