

ESTHETIC REHABILITATION OF PRIMARY ANTERIOR TEETH USING GLASS FIBER AND BIOLOGICAL POST: A CASE REPORT

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Abstract

Technological advances in dental materials and the approach to their use need to be considered, and the introduction of new adhesive systems, restorative materials, and the approach toward treating these teeth has yielded convincing results. Thus reporting a case where glass fiber post and biological post with fiber reinforced composite were used successfully to restore esthetics and function.

Keywords: Maxillary incisors, Early childhood caries, Glass fiber post, Biological post, Composite resin, Strip crowns.

Introduction

The esthetic restoration of severely mutilated anterior primary teeth has been for long a challenge to a pediatric dentist, not only because of the available materials and techniques, but also from the point of view of pediatric patients, who are usually among the youngest and least manageable group. Inadequate esthetic options in addition to the severity of the condition have prompted extraction in most of the cases, in spite of the treatment being not convincing both to the parents as well as the clinicians.¹

Although great scientific and technological advances regarding the restorative and adhesive material in recent time have made the restoration of mutilated teeth a great success² but till date there is no material that has been proved to be as effective as natural tooth structure considering mechanical and biological properties.³

Biological restorations made from natural extracted teeth appears to be very promising with regard to esthetics.^{4, 5} and low cost. However, biomechanical properties of these biological restorations are yet to be determined for the long term clinical use. Biological restoration are perfect in term of esthetic, bonding to tooth structure^{6, 7}, and similar modules of elasticity⁸ same as of natural tooth.

This article presents a case where glass fiber post and biological post were used successfully to restore wrecked anterior primary teeth.

Case report

A 4 years old male patient reported to Teerthanker Mahaveer Dental College and Research Centre with the complaint of decayed teeth in upper front tooth region since 6 months. On diagnosis grossly decayed teeth in relation to 51, 52, 61 and deep caries in 62 were observed (Figure 1). The roots of the grossly decayed primary teeth were found to be firm and no mobility was present. Radiographs of the teeth showed no signs of exfoliation with normal development of a permanent tooth bud. Pulpectomy was performed followed by esthetic rehabilitation of grossly decayed primary incisors respectively.



Figure 1: Multiple carious lesions (pre-operative)

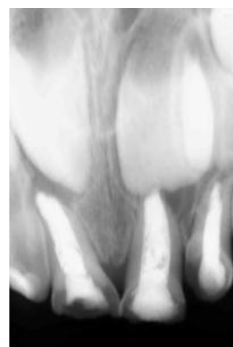


Figure 2: Radiograph showing endodontic management

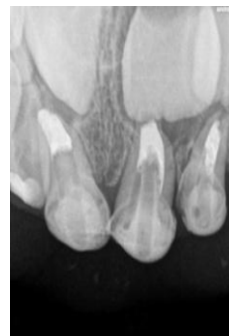


Figure 3: Glass fiber post placed irt 51, 52 and biological post irt 61



Figure 4- Strip crowns irt 51, 52, 61 and 62.

Step-wise treatment was carried out as mentioned:

- Pulpectomy followed by obturation of 51, 52, and 61 was done. (Figure 2)
- Space was created by removal of 5 mm of the obturating material followed by placement of fiber post and biological post irt 51, 52, 61 with Relyx cement. (Figure 3)
- After post and core etching and bonding was done followed by full coverage restoration by strip crown. (Figures 4)

Clinical and radiographic examination after three, six, nine and twelve months revealed the presence of an intact crown and the absence of periapical pathology, confirming the efficacy of the combined technique.

Discussion

Kapur *et al*⁹ stated that despite of decline in overall caries prevalence, its incidence continues to be as high as 18% in 2 to 4 year-old and 52% in 6 to 8 year-old children. In restoring the anterior teeth, esthetics and mechanical resistance to fracture plays an important role for obtaining a long-lasting result that can be achieved through reinforcement of the resinous matrix with fibers.¹⁰

The anatomy of deciduous teeth are such that they have large pulp chambers, lesser surface area for bonding and etching due aprismatic structure of enamel.¹¹ Thus, there are more chances of destruction of tooth frequently involving crown leaving behind the root portion. Thus, increasing its failure rate.¹² Hence, the above-mentioned technique is simple, quick, cost effective and offers excellent esthetics.

Conclusions

Teeth lost due to caries have a debilitating effect on physiological and psychological well being of a child. Hence, every effort should be made to correct the function and esthetic in order to preserve the arch integrity.

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