

Case Report

Natural Tooth Pontic: Single visit fibre reinforced splinting.

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Abstract:

Tooth loss in the anterior region is for most patients a deeply traumatic experience. Natural tooth pontic is a simple and cost effective treatment options for the replacement of a periodontally involved tooth using its own natural coronal portion. It can be considered a hygienic, non-invasive and long-term provisional treatment, providing superior aesthetics and functions, besides this is a chairside technique without any time consuming laboratory procedures.

Keywords: Fibre reinforced composite, Mobile teeth, Natural tooth pontic, Splinting.

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Introduction

Person who requires removal of an anterior tooth, the primary concern is generally the restoration of an esthetic appearance immediately whether the tooth is removed surgically or lost due to trauma or caries, the dentist should consider an immediate means to satisfy the patient's cosmetic requirements.¹ This replacement can be temporary, semi temporary or permanent in nature. Depending upon many clinical and economic factors, a course of treatment is decided upon by the patient and dentist.

Fibre reinforced materials have been widely used for a number of years in Dentistry. The concept was first applied to denture acrylics in early 1960's to improve resistance.² The principle of fibre reinforcement involves

incorporation of thin filaments of a foreign material into a base resin. These filaments impart increased strength by bonding into the structure and preventing crack propagation through the structure.³ The aim of this case report is to replace a periodontally involved mandibular left central incisor immediately after extraction using the fibre reinforced composite splinting following elimination of root portion, using the crown portion of same tooth.

Case Report

A female patient aged 25 years reported to Department of Periodontology, Teerthanker Mahaveer Dental College & Research

Centre, with the chief complaint of loosening of lower front teeth. Clinical and radiological examination revealed gingival recession with 8 mm loss of attachment in relation to 31. Diagnosis was made as Miller's Class IV gingival recession along with grade III mobility with 31. The tooth was indicated for extraction due to poor periodontal health. Patient had no relevant past medical or dental history. The periodontal health of 32 and 41 was not favourable for fixed prosthesis. Patient demanded immediate replacement after the extraction of effected tooth, as she was getting married within 15 days. Hence, Natural tooth Pontic was planned after extraction of 31 as the crown portion was intact, using impregnated fibre reinforced composite as a retainer to improve the esthetics.

The tooth was extracted (Figure 1), root was resected to the desired extent (Figure 2), pulp chamber was opened, pulp was extirpated and obturation was done at chairside. Resected part was finished and polished with pumice, washed and dried. Fibre was measured to the length required (from mesial surface of 43 to distal surface of 33).



Figure 1) Photograph immediately after extraction of # 31; **2)** Root resection; **3)** Labial view of lower anterior teeth after splinting; **4)** Lingual view of lower anterior teeth after splinting; **5)** Occluded view of upper and lower teeth

Abutment teeth were etched with 37% phosphoric acid (Ultradent) for 30 seconds, washed and dried. Wedges were placed interdentally to maintain the embrasure areas. Dentin bonding agent was applied to etched enamel along with fibre (Fastsplint) and cured for 20 seconds. A layer of hybrid composite (3M ESPE, B2 shade) was placed on the fibre and cured (Figure 3 and 4). Finishing and Polishing was performed.^{4,5} Stability was checked and oral hygiene instructions were given. Patient was recalled after 3 months.

Patient was satisfied and happy for restoring her smile (figure 5) with the immediate replacement of teeth.

Discussion

Tooth mobility refers to any degree of perceptible movement of faciolingually, mesiodistally or axially when a force is applied to tooth. The various causes are Chronic inflammation, trauma from occlusion, pregnancy and periodontal involvement which is the most common cause of mobility.⁶

Splinting is one of the methods for immobilization of mobile teeth. Fibre splint material is aesthetically pleasing and comfortable to the patient. It has highly favourable mechanical properties. When compared to metals they may offer many advantages including non corrosiveness, translucency and good bonding properties.⁷

Conclusion

Natural tooth pontic is a simple and cost effective treatment options for the replacement of a periodontally involved tooth using its own natural coronal portion. It can be considered a hygienic, non-invasive and long-term provisional treatment, providing superior aesthetics and functions. However, this procedure is highly operator dependent and demands appropriate case selection and precise technique.

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