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Fibre Reinforced Immediate Fixed Partial Prosthesis Using Natural Tooth Pontic: A Case Report.

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ABSTRACT

Replacement of anterior teeth has several techniques. In this case report describe the immediate replacement of anterior teeth using fibre reinforced fixed partial composite, natural tooth pontic and elastomeric impression material for anatomic positioning of the pontic.

Keywords: Natural tooth pontic; immediate replacement, fibre reinforced composite, elastomeric impression material.

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INTRODUCTION

Loss of anterior teeth in young patient due to trauma or reduced periodontal tissue support creates special challenge to rehabilitation of aesthetic and function in dentistry. There are several traditional restorative options for missing anterior teeth in such clinical situation starting from removable partial denture, fixed partial denture and implant. But all these treatment option could not replace aesthetics immediately. For aesthetic reasons delayed replacement is unacceptable. With major concern about aesthetic and reduced time span without prosthesis. Fibre reinforced immediate fixed partial denture is one of the innovative treatment for missing anterior teeth.

Case report

A 25 years old male patient reported to Prosthodontics Department of Farooqia Dental College, Mysore, with chief complaint of pain and mobility of teeth in the anterior upper and lower aspect of jaw. Intra oral examination reveals severe bone loss and soft tissue recession of maxillary right central incisor and mandibular central incisors (Fig 1). Due to progressive bone loss extraction of the teeth was indicated. Patient was unwilling for extraction and was concerned about aesthetics. But extraction of the teeth was the only treatment option since the teeth were diagnosed with severe chronic localised periodontitis. So we decided with the treatment plan of extracting 11, 31 and 41 and replantation of the patient's own natural teeth after extraoral endodontic treatment followed by stabilization [1].

Techniques

An impression was made with alginate impression material (Algitex) and the cast was poured using dental stone (Kalabhai dental stone) (Fig.2). Elastomeric impression made on the upper and lower cast to use as a guide plane. Maxillary right central incisor and mandibular left and right central incisors were extracted using local anaesthesia (Fig3). The extracted tooth were rinsed in normal saline, the tooth were sectioned in horizontal plane then at a level 3-4mm apical from cemento-enamel junction due to severe soft tissue recession on the labial aspect. Extirpation of the coronal pulp and sealed with light cure composite material. Elastomeric impression material was used to guide in repositioning of the tooth in its anatomic position (Fig4). The fibre strips [Insta Fbre-Splint] was then bonded on the palatal aspect of the natural pontic teeth [11, 31 and 41] (Fig.5)

After maintaining hemostasis, the maxillary central incisor 11 was then positioned on the extracted site in passive contact with socket. The natural tooth pontic 11, with fibre strip was bonded to abutment teeth 21 and 12 after 15 seconds acid etching with 37% phosphoric acid followed by rinsing and gently air drying (Fig6). The adhesive bonding agent application and u light cure using flowable composite (Fig7). The same procedure was done for mandibular central incisors. The patient was instructed to maintain oral hygiene and keep the restoration clean and plaque free.



Fig.1 : Preoperative



Pre-operative cast



Fig 3.Extracted teeth



Fig4.Anatomic positioning



Fig 5. Prepared pontic



Fig6.Prepared adjacent teeth



Fig 7.Immediate final restoration

DISCUSSION

The loss of anterior teeth may represent a challenging aesthetic problem. These problems can be managed in several ways including (1) a provisional removable partial denture replacing missing teeth; (2) a provisional fixed acrylic bridge utilizing the adjacent teeth as full crown abutment; (3) implant; (4) an immediate chair side fabricated composite resin tooth as the tooth replacement [2].

The technique described in this article helps in creating immediate aesthetic replacement without healing time, discomfort, laboratory stage; reduce the cost and the number of treatment visits.

The use of elastomeric impression helps as easy guided plane for anatomic positioning of the pontic. Since there were severe soft tissue and hard tissue recession the pontic typically extend to 3-4mm apical from cemento-enamel junction which will establish the site of the pontic within the facial bone to prevent the tissue from collapsing during initial healing.

Although fibre reinforced composite material seem to provide excellent aesthetics but it has its own disadvantage such as increase wear, liability to plaque accumulation, discolouration, loss of superficial gloss and increase wear was diminished due to use of natural tooth as a pontic [3].

The main advantage with this method is it will create immediate aesthetic pleasing if patient willing for fixed partial prosthesis in the latter stage [4,5].

Patient was recalled after 3 days, 2 weeks and 4 weeks interval.

CONCLUSION

In conclusion, the technique described in this article suggests a treatment option for replacement of missing anterior teeth. Immediate replacement with natural teeth doesn't compromise the aesthetics. The use of fibre reinforced prosthesis is non-invasive, pleasing aesthetics, cost effective as compared to conventional treatment for anterior missing teeth.

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