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Natural Tooth Pontic - with Resin-Wire Splint

Medical Science

KEYWORDS : Tooth loss, natural tooth pontic, immediate replacement, resin-wire splint.

DR.PALLAVI PATIL	PG, Department of Periodontology, Bharati Vidyapeeth Deemed University, Pune.
DR.PRAJAKTA VALHAVANKAR	PG, Department of Periodontology, Bharati Vidyapeeth Deemed University, Pune.
DR.ROHINI MALI	Professor, Department of Periodontology, Bharati Vidyapeeth Deemed University, Pune

ABSTRACT

Extraction or loss of a hopeless tooth especially in the esthetic region is very distressing for a person and hence its immediate replacement becomes indispensable. Using natural tooth as a pontic bonded to the adjacent abutment teeth with a resin-wire splint is a cost effective, simple, easy chair side technique with esthetically acceptable immediate results.
This paper presents a case report to treat the loss of a lower incisor in a patient. The natural tooth pontic (extracted incisor) was stabilized in the extraction socket with a resin-wire splint.

I. INTRODUCTION:

For a 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 surgical trauma the dentist should consider an immediate means to satisfy patient's cosmetic requirements. Using natural tooth as pontic offers the benefits of using the right size, shape and colour. A variety of materials are available for this purpose which include multiflex orthodontic wires, steel meshes, glass or fiber splints 1,2 etc. The main advantages of this technique are its simplicity, reversibility and affordability.

II. CASE REPORT:

A 50 year old male patient was referred to the department of Periodontology, Bharati Vidyapeeth Dental College & Hospital,Pune with the chief compliant of loosening of lower anterior tooth and discomfort while eating. On examination, the periodontal status of 41 was compromised with bleeding on probing and pocket formation. There was severe gingival recession on both labial and lingual side which extended upto apical third of the root (Fig 1 & 2).

Fig 1-Pre operative view

Fig 2- Pre operative lingual view

The intraoral periapical radiograph reveled periapical bone loss. The periodontal prognosis of the tooth was very poor and the tooth was advised for extraction(Fig 3). It was decided to use the the extracted tooth as a pontic. The patient was recalled on the next day for splinting.

Fig 3- Post extraction view.

Fig 4- Extracted tooth that was endodontically treated.

An in vitro endodontic treatment was carried out with the extracted tooth and it was filled with a flowable composite resin (Fig 4). The length of the natural tooth pontic was determined by measuring the distance from incisal edge of the central incisor to the extraction site. Some additional length was added so the pontic would be touching the gingival tissue when the extraction site healed. The extracted tooth was measured with a periodontal probe to the length needed. The root was cut with a bur (SS White Burs) and then shaped with a flame shaped finishing bur (SS White Burs).The gingival aspect of the tooth was smoothed and shaped to be rounded

Various materials available for periodontal splinting include adhesive composite resins, wires, metal mesh, nylon, cast metal frameworks bonded to adjacent teeth, glass or polyethylene fiber reinforcement materials etc.

As 31, 32, 42 were also grade I mobile it was decided to splint from canine to canine i.e. from 33 to 43. The teeth were cleaned on facial and lingual aspect and polished using a polishing brush and pumice paste. The teeth were then thoroughly rinsed and dried. A piece of dental floss was laid onto the lingual surface at the level of the proximal contacts and cut to length. A wire was measured as the equal length of floss and adapted over the cast.

The natural tooth pontic was etched with a phosphoric acid etchant for 30 seconds, rinsed with water and dried. A resin adhesive (Prime & Bond, Dentsply) was painted on the etched surfaces. The teeth adjacent to the pontic in the mouth were etched for 30 seconds with a 32% phosphoric acid gel. The teeth were then rinsed with an air-water spray for 10 seconds and gently dried. Prime and bond, was applied to the etched enamel surfaces using a disposable brush. The tooth pontic was picked up with cotton pliers and placed in the area from where it was extracted and the incisal edge height was adjusted at the same height as the adjacent central incisor. Then all teeth were splinted using resin wire splint (Fig 5 & 6). The composite resin was shaped, finished, and polished to remove any excess restorative material and achieve an aesthetic result. The patient was shown the use of a proxa brush to clean the embrasure areas.

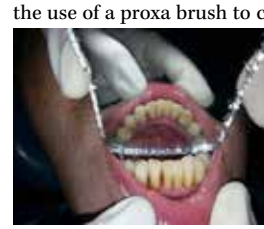

Fig 6- Post treatment lingual view

Fig 6- Post treat ment lingual view

III. Discussion:

Replacement of missing anterior tooth using a natural tooth pontic technique is an intermediary restoration and may not be used as permanent restoration for long term 4,5. This technique can not be used for every patient and some important factors should be considered before performing such restorations eg. patient's bite, interfering parafunctional habits, inadequate occlusal clearance space, inability to maintain isolation of area during bonding procedures, primary dentition and high esthetic expectations of patient, but this technique also has some advantages like good aesthetic results, preservation of natural crown structure, no laboratory work required, reduced psychological impact on the patient. This technique is reversible and allows other restorative options to be evaluated 6.

V. Conclusion:

This is a simple, economical, and rapid method to replace a single tooth. It requires minimal or no tooth preparation; thus is a reversible technique and avoids the laboratory costs.

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