



AN IMMEDIATE ADHESIVE BRIDGE FOR AESTHETIC REPLACEMENT OF ANTERIOR TOOTH.

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ABSTRACT

Dental esthetics is one of the essential components in terms of Beauty concepts. The sudden loss of an anterior tooth is a catastrophic for a patient that leads to extreme psychological trauma, along with functional and esthetic debilitations. Irrespective of the final treatment, the first line of management would be to provisionally restore the patient's esthetic appearance at the earliest, while functionally stabilizing the compromised arch. Using artificial tooth, as pontic of right size, shape, and color, provides exact repositioning a tooth into its original intraoral position with splinting which is a fast alternative for single and multiple teeth replacement. This paper describes the immediate replacement of lower central incisor with the artificial tooth as pontics, a simple and economical method. It requires minimal or no tooth preparation and also it is a reversible technique with no additional lab costs.

KEYWORDS : Dental esthetics, Artificial tooth, pontic, splinting.

INTRODUCTION

Esthetics, is derived from the Greek namely, "perception", deals with beauty and the beautiful. It has two meanings: objective and subjective.¹¹ Objective (admirable) beauty is based on consideration of the object itself, which is not influenced by emotions, opinions, or personal feelings. It is a perspective based on fact, which is quantifiable and measurable. Subjective (enjoyable) beauty is a quality that is value-laden, relative to the taste of an individual contemplating. It is based on personal feeling, emotion, aesthetics, which may enhance the cosmetic value.⁵

Charismatic smile and facial aesthetics strongly relate to each other. Individuals predominately emphasize on another person's eyes and face during interaction and the smile ranks second to eyes, as the most important feature of facial attraction.⁵

Esthetics plays an important role in periodontal practice in today's clinical world and is amongst the necessity of any treatment procedure, and also the primary need of the patient besides relief from the chief complain. Loss of tooth in the esthetic zone of the anterior region can be due to trauma, periodontal disease or endodontic failure. Replacement can be temporary, provisional or permanent in nature depending on multiple factors, a treatment module is decided upon by the dentist and patient. Connecting multiple teeth also increases support when the teeth are used as abutments for a precision attached partial denture.⁴

Splinting, is a procedure by which a tooth resistance to an applied force, is increased by joining it, to a neighboring tooth or teeth, is a well-accepted clinical treatment used to control irreversible tooth mobility through mechanical stabilization. It has an advantage of stabilizing mobile teeth by forming a firm unit, minimizing tooth mobility, and greatly improving the occlusal function of the teeth.²

This article highlights the replacement of anterior teeth by an artificial tooth which facilitates the enhancement of esthetics, phonetics and psycho-social behavior of the patient.

CASE REPORT

A female patient of 41 year old reported in a private dental office with a chief complaint of missing lower anterior tooth along with bleeding gums. On clinical examination, it was

observed that patient had localized chronic periodontitis in relation to lower anteriors, having grade II mobility in 31 and grade I mobility in 42 and missing 41. There was pathological migration in 31, 42 resulting to an unesthetic smile.

A treatment plan was formulated, and all the treatment modalities were explained to the patient. Initially, oral hygiene instructions followed by scaling and root planing was performed and patient was recalled after one week. (Fig. 1)

As the lower anterior was having mobility and the periodontal health was not so favorable for fixed prosthesis (long term), so the next mode of treatment was splinting of mobile teeth along with artificial tooth pontic for esthetics. Before starting with the procedure, patient underwent psychotherapy sessions from a professional psychotherapist. A verbal questionnaire was administered on the patient in order to understand the behavioral and psychological patterns.

Technique

1. An acrylic tooth of the shape and shade of mandibular central incisor was selected from the teeth set to ensure the proper contact relations with adjacent teeth. (Fig 2)
2. The selected abutment teeth (32, 31, 42 and 43) were prepared with a horizontal lingual groove to accommodate a stainless steel 24 gauge wire. The groove was approximately 1.5 deep and 0.5mm wide.
3. The length of the 24 gauge stainless steel wire was determined by placing a piece of dental floss from the distal surface of right canine (43) to the left lateral incisor (32), and a piece of the wire was cut to this length.
4. The pontic and the abutment teeth were etched with 37% ortho phosphoric acid. (Fig. 3)
5. The artificial tooth pontic and abutment was prepared for bonding by first wetting it with a bonding agent and was light-cured for 10 seconds.
6. The wire bonded with the pontic, was then placed into the prepared lingual grooves of the abutment teeth. (Fig. 4) A layer of flowable composite resin was placed on top to secure it in place. The restoration was light-cured for 40 seconds. (Fig. 5)
7. Occlusal interferences were evaluated. The lingual aspect of the provisional restoration was polished with an abrasive impregnated rubber finishing system and was recalled after 1 week for check up.

After the completion of the procedure, patient again underwent psychotherapy sessions in order to comprehend the patient's response and behavior towards the treatment performed. According to the psychotherapist, the patient was highly satisfied with the decision taken and left the clinic with an appealing smile.

DISCUSSION

Restoration of anterior tooth requires immediate attention for any patient to regain the psychosocial status as it impacts an individual's confidence and his/her desire to have an appealing appearance. This further is imperative for dental esthetics as this may be the reason for dissatisfaction amongst most of the individuals.¹ Hiding teeth while smiling is a reflection of dissatisfaction, further the major goal of dental treatment should be to restore esthetics as well as enable patients to feel confident about smiling instead of hiding their teeth.¹⁰ According to several studies, women present a greater psychosocial impact than men.^{3,12}

Replacement can be prosthodontically (by crowns or veneers) or periodontally (splinting artificial or natural tooth pontic)¹¹. Various techniques are described in literature related to restorative dentistry causing minimum trauma to the patient and splinting tooth using adhesive composite resin, wire, mesh, bonding to adjacent teeth and adding artificial tooth pontic.⁷ The failures owing to this situation is due to repeated loading stresses during occlusion and other parafunctional habits.⁹

The natural tooth pontics offers benefits of being right size, shape and colour and gives an internal satisfaction to the patient of using his own tooth for replacement. But as favourable conditions are not met always, an artificial tooth pontic is the next best option which may be used after matching the colour, size and shape with respect to adjacent natural teeth present. At the same time hygiene maintenance around the pontic should be taken care of.

A resin-bonded anterior fixed tooth is a well established option for the replacement of missing teeth and the success rate is reported to be 76% after 5 years and 60% after 10 year. Replacement of missing teeth with resin-bonded is a non-invasive restorative treatment. This concept has reduced the risk of critical loss of tooth structure and provides the maintenance of optimal strength , form and esthetic.¹³

Splinting is considered an important component of a periodontal treatment plan because of its ability to provide coaptive stability to the teeth and greatly improve the outcome and prognosis of teeth affected by periodontal disease. Splinting is valuable in ensuring the retention of periodontally compromised tooth and positively affecting the longevity.²

Conventional materials, namely metal alloy and ceramics, are used in prosthetic dentistry because of their rigidity that uses enamel surfaces with undercuts as a bonding surface. For this reason, the resin-bonded anterior fixed tooth is made with relatively small bonding surface area and it saves time too.⁶

In this case, after matching artificial tooth pontic in proportion with orofacial structures, the tooth was bonded with resin composite with the help of splints.

CONCLUSION

Today we live in a society full of glamour wherein appearance plays a central role. Pleasing appearance counts for the smile substantially. Restoring teeth and gums for a beautiful smile will improve the overall quality of life and self esteem of an individual. Missing anterior tooth played a major role leading to an unalluring appearance in the above case. Therefore, the

immediate replacement for lost anterior tooth is the best an individual can get to improve her smile.



Fig.1: Pre-operative after Phase I therapy

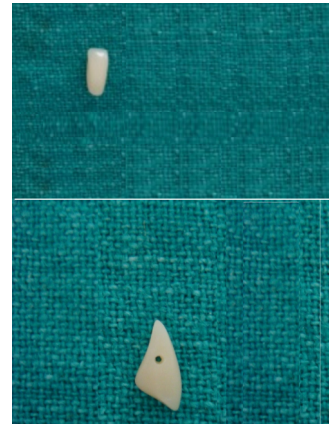


Fig. 2: Grooves prepared on lingual side and etching done.



Fig. 3: Stabilization of acrylic tooth in edentulous area.



Fig. 4: Post-operative view



Fig. 5

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