A DIRECT RESIN COMPOSITE BRIDGE: A CASE REPORT

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Abstract:
A direct composite bridge was made in a patient to replace left mandibular lateral incisor tooth. The bridge was constructed with resin composite bonded to the adjacent teeth by the acid-etching technique. Anterior teeth can be replaced in a single day by this treatment modality and also it is simple and cost effective.
Key Words: Acid Etching, Anterior tooth replacement, Bonding, Composite resin, Direct bonded fixed partial prosthesis (DBFPP),

INTRODUCTION

There are different treatment options for replacing anterior teeth which includes a removable cast partial denture, a fixed partial denture, a Maryland bridge or a dental implant. Every treatment option has its own merits and demerits, for example there can be local or systemic contraindications or financial problems when planning for an implant supported prosthesis,or a conventional fixed partial denture may not always be possible, because of the biological or the financial cost.

The Modern time dentistry always favors a conservative approach, so for the replacement of a single tooth, especially an anterior tooth, the direct bonded fixed partial prosthesis (DBFPP) that incorporates composite resin may be selected for esthetic reasons.[1] It is a conservative, single visit treatment, that provides fixed prosthesis with satisfactory results.

This case report highlights the use of composite resin for replacing the anterior missing teeth. Procedure can be performed in one visit only and also it is minimally invasive and cost effective.

CASE REPORT

A 26-year old man reported to the Department of Prosthodontics and Crown and Bridge, Teerthanker Mahaveer Dental College and Research Centre, Moradabad with compromised esthetics due to missing teeth in lower front tooth region since 6 months which was lost due to trauma 6 months back (figure 1 a,b).

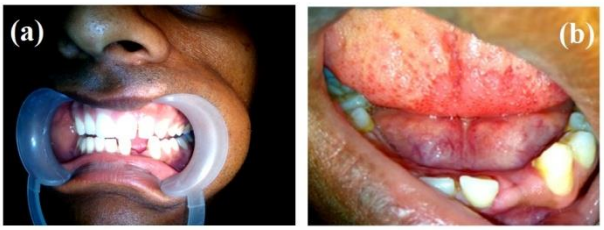

Figure 1 preoperative photograph (a) frontal view, (b) oblique view

After evaluation both clinically and radiographically patient was explained about various modalities of treatment. Patient preferred a DBFPDP because it's more conservative and cost effective.

Complete oral prophylaxis was done to the patient. The enamel etching was done with 37 % phosphoric acid, and then painted with bonding agent and photocured.

A composite cord (figure 2 a, b) (DENSPLY SPECTRUM UNIVERSAL MICROHYBRIDE COMPOSITE RESTORATION) was made and adapted to the lingual surface of the abutment teeth to form a bridge. The cord was photocured for 30 seconds. Incremental buildup was done to match the shade of adjacent teeth.

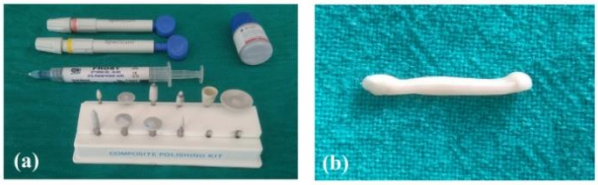

Figure 2 (a) composite material, bonding agent, 37% phosphoric acid, composite polishing kit (b) composite cord, to be placed on the lingual surface of the abutment teeth

Cervical third of the pontic was made by placing composite on a mylar strip placed on the edentulous area to get a smooth surface on the gingival side.

Highpoints were removed both in centric and eccentric movements of the mandible. Final polishing was done on both labial and lingual surface.(figure 3 a,b)

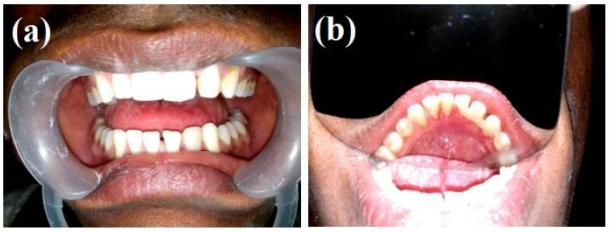

Figure 3 postoperative photograph (a) frontal view, (b) occlusal view

ADVANTAGES

The DBFPP is a one visit treatment modality. The financial as well as biological cost of the treatment is low. It can be used as an interim prosthesis in patients with developing dentition.

The biological cost is low (as it is minimally invasive), and thus all the other treatment options remain available. It has a splinting effect on the adjacent abutment teeth.

The esthetic result of the prosthesis is pleasing as the clinician has complete control on the shade and shape of the prosthesis. He don't have to rely on the lab technician for making the prosthesis. Color change is easily correctable.

DISADVANTAGES

It is a technique sensitive procedure, as good clinical skills and proper visual perception are necessary. If Mylar strips are not used for the cervical area buildup

then rough margins will be present and tissue irritation will occur.
The junction between tooth surface and composite can be stained over a long period of use. This Prosthesis cannot withstand the masticatory forces; it can debond or fracture easily under masticatory load.

Discussion

Fiber materials and the stainless steel wire can also be used in place of the composite cord for making the bridge between the abutment teeth which gives structural durability to the prosthesis.[2, 3]
The pretreatment of the enamel with etchant and bonding agent is sufficient to bond DBFPP to the abutment tooth.[4,5,6,7] In limited palatal space situations buccal surface of abutments can be used to bond the prosthesis.

SUMMARY

This case report highlights the use of composite resin for replacing the anterior missing teeth. Procedure can be performed in one visit only and also it is minimally invasive and cost effective.

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