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Case Report

Maryland Bridge: A Case Report

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ABSTRACT

Teeth that are absent in adolescence can be a challenge to replace as the bone is still developing1-2. A definitive replacement has to be delayed. Adhesive bridges are a concrete option in such cases that act as interim restoration for short to long time period until a conclusive replacement can be done. In this case report such type of condition is revealed.

INTRODUCTION

In young patients with young and immature teeth replacement of a missing teeth with fixed artificial teeth is not ideal as the treatment plan1 involves the adjacent teeth as abutments and due to the large pulp size and transitory nature of gingiva, the results can be post-operative complication. Treatment planning for such cases requires restorations with minimal preparation of abutments and an essentially interim restoration. Many designs have been advocated, e.g. Maryland bridges, Rochette bridges. While these restorations have compromised retention and variable life spans, newer self-etch adhesive systems help to ensure that such restorations are retained for reasonably long periods of time2. The following case report reveals the treatment of a similar case.

CASE REPORT:

Missing#21 in a fifteen year old female patient had been unrestored for a year (figure 1). On clinical and radiographic examination, the teeth demonstrated gingival margins much coronal to the cementoenamel junctions, and large pulp chambers. Considering the age of the patient and physical characteristics of the teeth, a conservative adhesive bridge was planned as interim restoration.

Minimal preparation of the abutments #11 and #22 was performed on the lingual surfaces only (figure 2). Care was taken to ensure that the preparations were not extended beyond the palato-proximal line angles on the abutments. Parallel retentive grooves were made in each preparation on the surface facing the edentulous space.

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Fig.1 Pre-op Picture


fig.2 Intra oral preparation

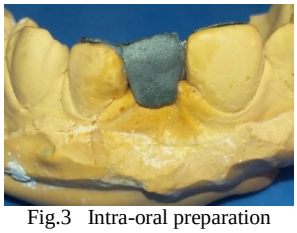
Fig.3 Intra-oral preparation

Impression procedures were carried out with addition silicone (Express XT, M ESPE, Seefeld, Germany).A metal framework with 'wings' extending onto the preparations was fabricated with soft, non-precious alloy(fig.3), on which retention beads and nailheads were created to retain the veneering material in the Pontic area(fig.4).

The fitting surfaces of the 'wings' were sandblasted with alumina 250µ to create micromechanical retentive surfaces for the cement4-5.The restoration was cemented in place using a universal self-etch resin cement (Rely X U100, 3M ESPE, Seefeld, Germany).The occlusion was tested and accustomed(fig.5-6). A patient followed up at regular intervals was done. The restoration demonstrated successful retention and function by the year end post-operatively.


fig.4 Maryland prosthesis framework


Fig. 5 final prosthesis (labial view)


Fig. 6 Final prosthesis (palatal view)

DISCUSSION:

The Large pulp chambers in the abutments and expected transition in the position of the gingiva and also the age of the patient were factors that prohibited the use of conventional fixed prostheses in this case. The restoration planned was distinguished ideal because of its conservative nature that would allow the tooth and soft tissues to mature before a more conventional and definitive restoration be fabricated. Poor retention of these restorations usually is associated with early loss of the restoration, resulting in repeated luting efforts. The new self-etch universal resin cement systems are valuable tools in ensuring longevity of such restorations4-5 that allow them to be in service for the intended period. Although a 75 % success rate at 4 years is considered satisfactory for adhesive restorations, the uneventful -year follow up in this case created much optimism regarding its tenure in service, at the end of which definitive prosthodontic treatment may be rendered. These restorations

essentially remain long term provisional restorations or even work as an interim solution6.

CONCLUSION:

Treatment planning compromised by patient factors may be compensated by technology of newly developed products. The self-etch universal resin cement systems are an invaluable aid to this effect6.

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