Effect of Different Treatment Protocols for Mandibular Kennedy Class II Cases Using OT Attachment on the Supporting Structures

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بسم الله الرحمن الرحيم
﴿ قالوا سبحانك لا علم لنا الا ما علمتنا
إنك انت العليم الحكيم ﴾
صدق الله العظيم
الآيه(32) سوره البقره

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AHMED ABD EL-LATIF MOHAMED ZEIDAN

Dedication

***To** my **lovely wife** and my son **Adam**:*

I would like to dedicate this to you my lovely wife. I wouldn't have reached this point in my life without your love, help and support. Thank you for taking good care of me and helping me become the person I am today.

AHMED ABD EL-LATIF MOHAMED ZEIDAN

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Introduction

INTRODUCTION

Removable partial dentures remain an essential prosthetic consideration in many conditions of oral rehabilitation, especially when the edentulous spaces posterior to the remaining teeth are to be restored. Functional successful prosthetic rehabilitation requires careful attention and meticulous treatment planning. Rehabilitation of partially edentulous arch can be challenging when it is a distal extension situation classified under Kennedy's class I and class II situations because a natural tooth retained fixed prosthesis cannot be fabricated. Implant retained prosthesis is an option but this is sometimes impossible due to insufficient bone or economic reasons [1, 2].

Removable partial dentures (RPDs) serve as a simple and popular treatment option for partially edentulous patients, but the possibility for not accepting this treatment by patients should be considered [3].

Attachment retained removable partial dentures is a viable treatment alternative through which a significant number of patients could be benefited. In this particular case, an attachment retained removable partial dentures was chosen a treatment modality. An attachment is connector consisting of two or more parts. One part is connected to a root, tooth or implant and the other part to the prosthesis [4].

RHEIN OT Cap (Extracoronal castable semi-precision attachment) is a resilient distal extension attachment. It is indicated to be used with combined prostheses and removable partial dentures. For treatment plans

that require a rigid substructure with milling and adequate counter attachments, OT Cap functions as a stabilizing retentive connector. In addition, for treatment plans which require resiliency, OT Cap provides a "Cushion Effect" similar to a shock absorber.

For patients with unilateral edentulism in molar region, removable partial dentures with a unilaterally designed framework claimed to be more comfortable during mastication and speech, and more profound effect is anticipated on patients' acceptance due to its relative simplicity. However, clinical use of the unilaterally designed framework is criticized owing to the poor retention and stability and difference in effect on the supporting structure compared with the removable partial denture with bilaterally designed framework [(5)]. Each treatment option has its own advantages and disadvantages, the question is can we substitute the bilateral prosthesis option with unilateral one in unilateral edentulous cases?

Review of literature

REVIEW OF LITERATURE

The tooth-tissue supported removable partial denture is supported at one end by natural teeth, which essentially do not move, and at the other end by the denture bearing tissue (mucosa overlying bone) which moves because of the resiliency of the mucosa. The design of the tooth-tissue supported removable partial denture is one of the most controversial topics in prosthodontics. Several philosophies with specific RPD designs or construction techniques have been suggested to compensate for the difference in support provided by the natural teeth and denture foundation tissues[(6)].

The clinical use of removable partial denture (RPD) is limited because of its poor stability and retention. A regular problem faced by partially edentulous patient is the difficulty of adapting to a removable prosthesis. A unilateral prosthesis is always less stable, because it lacks the effect of cross arch stabilization .Rehabilitation of Kennedy Class II partially edentulous patients can be challenging [(7)].

Posterior free end edentulous areas are more prevalent among population. Absence of posterior abutments to support and retain partial dentures affects the prognosis of prosthesis. Problems of support, retention and stability are usually associated with distal extension removable partial dentures (RPDs) [(8, 9)], so it requires planning following biomechanical design principles to obtain adequate support, retention and stability from both the ridge and abutments without eliciting any harm to the supporting structure [(9)]. Also, it is important to restore masticatory function as well as preserve