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بسم الله الرحمن الرحيم

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شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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بالرسالة صفحات لم ترد بالأصل

THE EFFECT OF MANDIBULAR OVERDENTURE ON A UNILATERALLY AND BILATERALLY LOCATED ABUTMENTS

Thesis

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Starting with the name of God most merciful

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Last but not least, I pray to God that this thesis may be my first step on the path of scientific research and that it may pave the way for more beneficial work in the field of prosthesis.

Dedication

I dedicate this piece of work to my wife who provided me with the suitable atmosphere to accomplish my thesis. Owing to her love and understanding this thesis is finally presented. May God preserve my wife, Sahar and my children, Gazelle and Loujine.

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REVIEW OF LITERATURE

Introduction

Loss of natural teeth is subsequently followed by alveolar bone reduction that is disasters for maintaining a successful foundation for complete denture restoration so, if the last remaining teeth or roots can be saved as abutments for an overdenture, the amount of alveolar bone loss can be minimized.

Prieskel [1979] said that these teeth or roots not only help to stabilize and retain the overdenture, but also the patient will have the ability to discriminate between the size of objects placed between the teeth and to sense the direction and to control the amount of force applied to denture and its supporting structures.

Loiselle et al. [1972] and **Jorgensen** [1995] reported that Mandibular cuspids are naturally located in a strategic position to be used as abutments for an overdenture, this is due to the presence of their roots at the corners of the mouth, and the shape of their roots may facilitate an easy endodontic treatment. Also the retained canines will reduce the bone reduction in the intercanine area where the occlusal loads become more destructive.

Marcus et al. [1996] reported that when considering the selection of abutment teeth for an overdenture, one should evaluate the abutment position, the space between the abutments, the root length and form, the amount of bone support and the opposing dentition. The most commonly retained teeth are the six anterior teeth in the mandibular arch, where the cuspid is the most commonly the last retained tooth.

The number and position of the abutments that support an overdenture is still under research. A question raised, does the response of the supporting structures of the remaining abutment teeth differ according to the type and distribution of these abutment teeth?

Limitation of Complete dentures

Miller (1958) stated that maxilla and mandible were designed to house the teeth not to support artificial dentures. He believed that no support for the occlusal forces was as adequate as the roots of the natural teeth. The alveolar processes of the maxilla and mandible do not respond positively to occlusal forces by the use of artificial dentures.

Carlsson and Persson (1967) reported that loss of teeth especially mandibular teeth will frequently lead to a rapid reduction in the height of the alveolar process. This is due to the smaller denture bearing area of the mandible and to the less favourate distribution of the masticatory occluding forces on the bone.

Atwood (1971) clarified that, the morphologic change in the residual alveolar ridges is considered to be a major oral disease entity.

Kabcenell (1971) has reported that edentulous state has a severe impact on many physiological functions, such as mastication, deglutition, speech articulation and all the oral activities except breathing and phonation. The major limitation in edentulous patients is the progressive residual ridge resorption which has a dramatic effect on the functional performance.

He also reported that Limitation of complete dentures mainly are related to movement of dentures in function. This movement causes altered muscular function directed toward unstabilization of the denture. It also creates occlusal disharmony which results in soft tissue pathology and still further modifications of denture position and muscular function. Since mandibular dentures usually are more unstable than maxillary dentures, efforts to increase their stability would be most rewarding.

Tallgren (1972) has reported an average mandibular ridge height reduction of 9 to 10 mm and an average maxillary ridge height reduction of 2.5 to 3 mm over the first 25 years of edentulism. The physical nature of complete

dentures on the other hand, is limited because the denture base in the palatel region and the buccal and lingual flanges, adds bulk at areas which are originally uncovered: As a result, reduction of the intra oral space, alteration of tongue placement and muscle function occurs.

Crum and Rooney (1978) in a 4 year study, found an average of 0.6 mm vertical loss of alveolar bone in the anterior part of the mandible in the overdenture patients.

Rubbins, (1980) said that an overdenture is a complete denture supported by soft tissue and few remaining natural teeth, submerged roots or dental implants that have been altered to permit denture to fit over them.

Jumber et al, (1981) reported that the degree of residual ridge resorption is affected by local and systemic factors, the greater the abuse to the alveolar ridge, the more rapid and more extensive the resorption.

Basker, et al. (1983) in a study for five years, compared the amount of vertical loss between two groups of subjects. The first group was treated with complete upper and lower conventional dentures. The second group was treated with upper conventional complete denture and lower overdenture. The amount of mandibular vertical bone resorption in the first group was 5.2 mm, while it was 0.6 mm in the second group.