سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

سامية محمد مصطفى

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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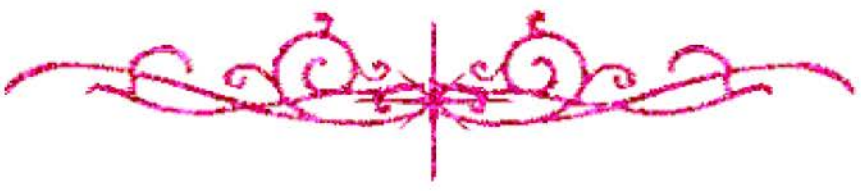

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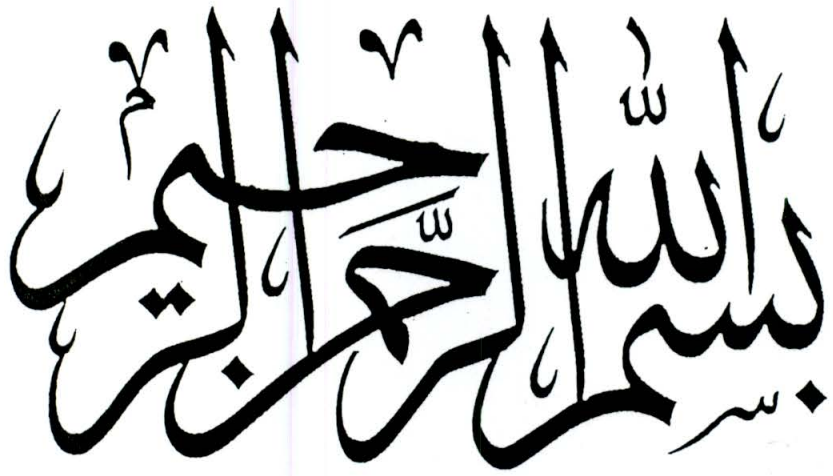

CLINICAL AND RADIOGRAPHIC EVALUATION OF TOOTH-IMPLANT COMBINATION SUPPORTING TELESCOPIC PROSTHESIS IN CASES OF REMAINING MANDIBULAR CUSPIDS

Thesis
Submitted to the Faculty of Dentistry,
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Doctor Degree

in

PROSTHODONTICS

By

AHMED ADEL ABDEL HAKIM
(B.D.S., M.S.)

Faculty of Dentistry
Alexandria University
2001

SUPERVISORS

Dr. Mahmoud K. Abdel Razek
Professor of Prosthodontics
Faculty of Dentistry
University of Alexandria

Dr. Wafaa Amer
Professor of Oral Medicine
& Periodontology
Faculty of Dentistry
University of Alexandria

Dr. Ahmed El-Mahelawy
Professor of Oral Surgery
Faculty of Dentistry
University of Alexandria

Dr. Mohamed S. El-Attar
Professor of Prosthodontics
Faculty of Dentistry
University of Alexandria

Dr. Gihan Hamza
Professor of Restorative Dentistry
Faculty of Dentistry
University of Alexandria

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Young researchers face times when they feel lost, disordered and impatient. My supervisors were ever helping at those times giving lights for lost boat. I beg my God to compensate them for their faithful help.

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Contents

INTRODUCTION

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Different oral health conditions may be found with regard to the number of remaining teeth, dental and periodontal health, or type and quality of prostheses [1]. Individual subjective treatment need is based on previous dental experience, self-assessment of general health, mental disorders, mobility, economics, and fear of dental treatment [2].

Cultural and social background appear to play a significant role in the reaction of people to partial and complete edentulousness. Edentulousness appears to be more prevalent in people of advanced age[3]. However, better information about oral health and preventive measures have lead to a significant reduction of tooth loss. Patients demand better esthetics, chewing comfort, and function [4].

Adaptation to complete dentures is a complex process and must be regarded on a somatic and psychological basis[1]. There are two specific difficulties for patients who are resigned to wearing complete dentures: (1) Loss of teeth at an advanced age has a bad prognosis for learning new muscular patterns. Moreover, postponing edentulousness to advanced age can cause problems for the patient and the dentist. (2) Edentulous patients who have worn dentures for many years gradually loose their ability to cope with complete dentures as their age increases, and they may not feel comfortable [2].

While many edentulous patients are satisfied with a complete denture rehabilitation to restore oral function and cosmetics, others suffer from this kind of treatment. The problems encountered are either functional, psychological or both

[4,5]. Reduction of stability, retention, and load-bearing capacity have been considered major factors for this compromised oral function. Psychosocially, patients suffer because of a constant fear of dentures loosening during jaw movements [6].

The patterns of oral function depend primarily on the state of dentition, type of prosthodontic restorations, psychological aspects, and on the presence of implants [7]. However, reduction in chewing efficiency has been revealed in patients with complete dentures [8]. Moreover, the functional benefits of complete dentures supported and retained by a few roots, have been clinically documented [9].

I- Periodontal support of remaining natural dentition.

Preservation of the two cuspid teeth, in particular, especially in the mandibular arch, offers many advantages. In edentulous patients, the anterior part of both dental arches, especially the mandibular, is very susceptible to resorption. Therefore, it is advantageous to retain cuspids to reduce the rate of bone resorption [10,11]. Their size, shape, length and their strategic position at the corners of the mouth make them desirable teeth for support. Cuspids are the most sensitive of all oral structures and the most important proprioceptive organ. Frequently, they are the last teeth to be extracted in a dental arch, because they are single rooted and thus successful endodontic treatment can be easily performed if needed [11-14].

Overdentures are a favored treatment modality for elderly patients with few remaining teeth because adaptation to wearing dentures is facilitated [13,14]. Mericske-Stern 1994[2] explained that roots maintained under the denture base preserve the alveolar

ridge, provide sensory feedback and improve the stability of the dentures. Furthermore, with the use of copings and precision attachments, retention of the denture is provided.

High success rate of overdentures with reduced periodontal support has been demonstrated [15]. The role of periodontal receptors for sensory feedback, discriminatory ability, and load-sharing may be important [16].

The combined periodontal and prosthodontic treatment of patients with advanced loss of periodontal support may provide a high rate of long-term successful outcome, provided proper adequate periodontal and prosthetic treatment and maintenance care are given [17]. If proper attention is given to periodontal treatment, even patients with marked tooth hypermobility can be successfully restored with fixed partial dentures to provide an adequate functional capacity [18,19].

A high rate of successful long term outcome of the combined periodontal and restorative treatment, despite an initially advanced loss of periodontal support has been reported by Yi et al.1995 [17]. The change in periodontal tissue support was minimal during an average of 15 years of follow-up and was not influenced by the design of the fixed partial denture (end abutments or cantilevers) or the amount of remaining supporting tissues[17].

II- Neural perception of the periodontal ligament.

Oral tactile function was impaired in patients wearing complete dentures with a six-fold reduction of discriminatory ability compared to dentate subjects, the neural receptors of the periodontal ligament are supposed to be essential for oral tactile

function [7,20]. Neural receptors seem to be responsible for active tactile sensibility, i.e., the discriminatory ability to detect threshold of pressure, while inhibitory reflexes seem to be dependent on the presence of periodontal receptors. Therefore, in patients with partial or complete loss of teeth and subsequent loss of the periodontal ligament in the respective area, reduced active and passive tactile sensibility may be assumed. Otherwise, because of the lack of an inhibitory-reflex mechanism, higher maximal bite forces could be expected when teeth are replaced by implants [21,24].

Tactile receptors of the periodontal ligament are most important for the continuous sensory feedback during chewing to coordinate the motor activity [13,16]. Therefore, the primary objective of overdentures is to maintain this sensory feedback by maintaining parts of the periodontal ligament. Other receptors in the mucosa, proprioceptors of muscles and the temporomandibular joint (TMJ), are also actively involved in this sensory feedback. Sensory feedback of the TMJ seems to become important for detection of objects of large size. The capacity of dentate subjects to discriminate the thickness of thin objects placed between the teeth, i.e., the perception capacity when biting consciously seems to depend mainly on the presence of periodontal receptors [20,22,23,25].

It seems that receptors in the bone, soft tissue, and temporomandibular joints are capable of providing sufficient information and may compensate for the missing periodontal ligament when prosthetic restorations are supported by implants [21,23]. Yet, Lundqvist and Haraldson[27] reported reduced discriminatory capacity with implant-supported prostheses. Therefore, it seems that the capacity of dentate subjects to