

Effect of immediate complete denture on the electromyographic activity of the masseter and temporalis muscles

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ)

اللَّهُ
صَدَقَ
الْعَظِيمُ

سورة البقرة ، الآية (٣٢)

To my parents, the pillars of my life
for their endless support and love.

To my Husband, for his continuous
assistance and encouragement
throughout my study.

And to my lovely sisters.

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Introduction

Becoming edentulous is unpleasant event in patient's life. Edentulous patient has always felt the need for replacing lost teeth. Many years ago the dental profession recognized and accepted patient's wish and need to avoid an edentulous period. This resulted in fabrication of dentures that can be placed in the patient's mouth immediately following the removal of the last natural teeth, mainly anterior teeth. ⁽¹⁾

Interim dentures function well because they float in the physiology of the mouth. They can provide the best solution of modern dentistry for one of our greatest problems, the too busy individual with too loose teeth.

Today dentists are expected to construct immediate dentures, and patients ask for them increasingly, mainly for esthetic and psychological reasons.

An immediate complete denture (ICD) is a restoration fabricated prior to the extraction of last remaining teeth, which is placed in the patient's mouth immediately following the removal of the remaining teeth.

The ICD is an important and useful method of restoration for a patient whose last remaining teeth are to be removed, thus muscles of facial expression remain virtually unchanged, and the natural tooth position can be duplicated, if desired.

The success of immediate dentures depends on correct indication and precise execution of clinical and laboratory fabrication procedures. Although patients may have many difficulties in the first year of their immediate denture wearing, the majority of patients are generally satisfied.

After complete healing and stoppage of tissue changes, the immediate denture will require a permanent reline to fit properly.

Electromyographic evaluation is an objective method that provides the masticatory muscle behavior in many situations during the function. That technique is based on capturing electric potentials from the muscles during natural and voluntary movements.

The question is does construction of immediate complete denture enhances masseter and temporalis muscle activity more than conventional denture construction for patients with remaining hopeless natural teeth or not?

Review of literature

I. Edentulism

The loss of all natural teeth reflects both the accumulated burden of oral disease and the consequences of its treatment by dental extraction. Edentulism is dentistry's equivalent to mortality.⁽²⁾

It is considered a poor health outcome and may compromise quality of life.^(3,4) The welfare and management of edentulous adults remains an important public health issue , having direct reference to the global goals for oral health by 2010.⁽⁵⁾

Edentulism (partial or total) is a determinant of the demand for dental care within populations because people without teeth visit the dentist far less frequently than dentate people⁽⁶⁾, It may also be a reflection of the success or otherwise of various preventive and treatment modalities put in place by the health care delivery system .^(7,8)

Many patients also regard edentulism as self mutilating and may be a strong incentive to seek dental treatment. All individuals should have adequate oral health that allows them to speak, chew, recognize flavors, smile, live without pain or discomfort and interrelate with others without embarrassment.⁽⁹⁾ While the rate of total edentulism is decreasing in developed