شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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بعض الوثائق الاصلية تالفة

بالرسالة صفحات لم ترد بالاصل

Comparative study between Degradable Bioglass and Hard tissue replacement as bone substitute inclusion of surgical bone defects

Thesis

Submitted in Fulfillment for the Requirements of the Master Degree in Oral Surgery.

By

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Introduction

Introduction

Bone defects in oral and maxillofacial regions are common surgical problems. These bone defects may result in both functional and esthetic defects for the patients. Hence, it is important to restore such defects by using compatible graft materials.

The graft materials could be autograft, which is bone from the own body of the person, allograft from an individual of the same species, xenograft from a different species and alloplastic materials which are synthetic bone substitutes materials **(Albee 1923 and Mellonig 1990).**

Autogenous bone graft proved to be the best and the most widely used material for reconstruction and augmentation in the craniomaxillofacial region.

However, this needs and creates a second surgical site, which is always an additional stress for the patient. Moreover, in case of large defects, it may be hard to harvest sufficient amount of bone in addition of being quite time - consuming to

shape and contour the graft to its future skeletal site.

The limited availability of autogenous bone for grafting and hazards of disease transmission of xenografts and antigenecity of allografts have prompted investigations to seek bone substitutes.

In recent years, alloplastic materials have been developed and used in several studies and situations **(Schliephake et al., 1995)**.

Thus, the purpose of this study is to compare and evaluate the effectiveness of two alloplastic materials named Bioplant HTR (Hard Tissue Replacement polymer) and Bioactive glass (Bioglass) as graft materials on an induced large defects in the calvarial bone of rabbits.

Review of Literature

Review of literature

Bone defects:

Bone defects specially those of large size may be caused by neoplasms, cysts, trauma and infection. In addition, bone defects may be due to disuse or pressure atrophy (atrophic edentulous mandible) and removal of impacted teeth.

Teeth extraction could be considered as treatment in cases of severe caries, pulp necrosis, severe periodontal disease, orthodontic reasons, malposed teeth, impacted teeth, supernumerary teeth, teeth associated with pathologic lesion, preradiation therapy, and those involved in jaw fractures line **(Peterson 1993)**.

Atwood (1962,1971,1979), Tallgren (1972) and Quinn et al.,(1985): found that, extraction of teeth could produce 40% to 60% alveolar bone loss in 2 to 3 years. General aging facial lines, unaesthetic dental restoration, and over closure were considered among the conditions that have been accelerated by the loss of facial bone. The psychological effects of premature tooth loss and subsequent alveolar bone loss appeared to be devastating to the patient.