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قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

“Evaluation of Horizontal Alveolar Ridge Augmentation using Pericardial Membrane versus Titanium Mesh” (Histological and Clinical Study)

A thesis submitted to the Department of Oral Medicine, Periodontology, Oral Diagnosis and Radiology, Faculty of Dentistry, Ain Shams University, in partial fulfillment of the requirements of the Master’s degree in Periodontology.

By

Ahmed Wafaa AbdelAzeem Bughdadi Abaza

B.D.S. 2004
College of Oral and Dental Medicine and Surgery
Misr University for Science and Technology

Supervisors

Prof.Dr Nevine Hassan Kheir El Din

Professor of Oral Medicine, Periodontology and Oral Diagnosis
Faculty of Dentistry, Ain Shams University

Ass. Prof.Dr.Waleed Mohammed Abbas

Assistant Professor of Oral Medicine, Periodontology and Oral Diagnosis Faculty of Dentistry, Ain Shams University

Ass. Prof.Dr.Dina Mohammed Abdel Khalik

Assistant Professor of Oral Biology, Faculty of Dentistry, Ain Shams University

Faculty of Dentistry
Ain Shams University
2021

Acknowledgment

First and foremost, I feel always indebted to **ALLAH,** *the Most Kind and Most Merciful.*

I'd like to express my respectful thanks and profound gratitude to **Prof. Dr. Nevine Hassan Kheir El Din,** *Professor of Oral Medicine, Periodontology and Oral Diagnosis Faculty of Dentistry, Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made the completion of this work possible.*

My deepest gratitude and thanks to **Ass. Prof. Dr. Waleed Mohammed Abbass,** *Assistant professor of Oral Medicine, Periodontology and Oral Diagnosis Faculty of Dentistry, Ain Shams University, for his kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

I am deeply thankful to **Ass. Prof. Dr. Dina Mohammed Abdel Khalik,** *Assistant Professor of of Oral Biology, Faculty of Dentistry, Ain Shams University for her great help, active participation and guidance.*

Ahmed Abaza

Dedication

Words can never express my sincere thanks to the soul of ***My Mother, My Father, My Sister, My Brothers, My Daughter, and My Wife*** *for their generous emotional support and continuous encouragement, which brought the best out of me. I owe them all every achievement throughout my life.*

I would like to express my everlasting gratitude to all ***My Professors, Colleagues and Friends****, so many of them influenced, encouraged and inspired me throughout the years. I wish them the best of all.*

Abstract

Reconstruction of alveolar bone defect can be achieved by many regenerative surgical procedures, including ridge splitting, onlay grafting, interpositional inlay grafting, distraction osteogenesis, and guided bone regeneration (GBR). In restoring horizontal bone deficiency, GBR was successfully developed. However, there is still a debate about the optimal barrier for GBR.

The aim of the present study was evaluation of dimensional changes following horizontal alveolar ridge augmentation in the esthetic zone using pericardial membrane versus titanium mesh histologically, radiographically, and clinically.

This study included twenty patients suffering from maxillary partial edentulism with inadequate bone width to allow implant placement within an adequate bone volume that allows long term stability of the installed dental implant. Patients were each assigned to a number starting from (1) to (20) and were randomly and equally allocated to group I (PM) and group II (TM) following a simple randomization procedure.

A baseline CBCT was performed while the patient was wearing the vacuum stent to evaluate the dimension of defected site. A standardized sagittal cross-section view of the CBCT was detected by reference mark and radiopaque gutta-percha point. The labio-palatal dimension was measured on three levels: first on the crest, second at apical line and one midway between the crest and apical line. The mean of these measurements was calculated to represent the preoperative width for each case. Then, the same measurements were repeated at 4-months postoperatively.

Bone block was harvested from donor site symphysis area for both groups using trephine bur, then an auto max trephine bur was used to harvest autogenous cancellous particulate bone from the same site of the harvested block. The harvested cancellous particulate autogenous bone graft was mixed with an equal volume of particulate anorganic bovine bone matrix (ABBM) to create a 1:1 composite graft**.** The augmentation technique was the same in both groups, except the membrane material. Bone block was fixed using titanium screw. In 1st group, bovine pericardium membrane (BP) was placed to cover the graft. while in 2nd group fixation of ti-mesh membrane over the graft material, periosteal releasing incision was performed to achieve tension-free closure.

Keywords: guided bone regeneration, anorganic bovine bone matrix

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