RESONANCE FREQUENCY ANALYSIS OF IMPLANTS SIMULTANEOUSLY INSERTED IN SINUS GRAFTED SITES.

Thesis submitted to

The Faculty of Oral and Dental medicine

Cairo University

In partial fulfillment of the requirements for the

Doctor's Degree in Oral and Maxillofacial Surgery

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2012

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بسم الله الرحمن الرحيم

لَا يُكَلِّفُ ٱللَّهُ نَفْسًا إِلَّا وُسْعَهَا ۚ لَهَا مَا كَسَبَتْ
وَعَلَيْهَا مَا ٱكْتَسَبَتْ ۗ رَبَّنَا لَا تُؤَاخِذْنَآ إِن نَّسِينَآ أَوْ أَخْطَأْنَا ۚ رَبَّنَا
وَلَا تَحْمِلْ عَلَيْنَآ إِصْرًا كَمَا حَمَلْتَهُۥ عَلَى ٱلَّذِينَ مِن قَبْلِنَا ۚ رَبَّنَا
وَلَا تُحَمِّلْنَا مَا لَا طَاقَةَ لَنَا بِهِۦ ۚ وَٱعْفُ عَنَّا وَٱغْفِرْ لَنَا وَٱرْحَمْنَآ
أَنتَ مَوْلَىٰنَا فَٱنصُرْنَا عَلَى ٱلْقَوْمِ ٱلْكَٰفِرِينَ ﴿٢٨٦﴾

صدق الله العظيم
(سورة البقرة الآية: ٢٨٦)

Acknowledgment

First and foremost, thanks to Allah.

I wish to conduct my gratitude, plentiful thanks and deep appreciation to ***Dr. Tarek Abbas Hassan,*** Professor of Oral and Maxillofacial Surgery, Faculty of Oral and Dental Medicine, Cairo University, for his precious advice, critical help, wise opinion, infinite support and meticulous assistance that lead to realization of this thesis. It is of great honor to work under his supervision.

Words can't adequately express the deepest feeling of gratitude and genuine appreciation to ***Dr. Hesham El-Hawary***, Lecturer of Oral and Maxillofacial Surgery, Faculty of Oral and Dental Medicine, Cairo University, for his limitless efforts, and time he spent in guidance all through this work to direct my steps. I owe him much more than gratitude and appreciation.

My deepest thanks to my parents, my brothers for their love, care, encouragement and everlasting help throughout my life.

To

My Mother

&

My Father

Contents

LIST OF ABBREVIATIONS

DFDBA	Deminalized freezed dried bone
RFA	Resonance frequency analysis
ISQ	Implant stability quotation
PSME	Piezoelectric sinus membrane
HA	Hydroxyl apatite
TCP	Tricalcium phosphate
FHA	Flurohydroxy apatite
BMPs	Bone morphogenic proteins
TGF-β1	Transforming growth factor beta
CRA	Cutting resistance analysis
RTT	Reverse torque test
BIC	Bone implant contact
RIV	Removal torque value
DMC	Dental mobility checker
POWF	Pulsed oscillation wave form
AED	Acous electric deriver
ADR	Acous device receiver
PTV	Periotest value
PDL	Periodontal ligament
DBBM	deproteinized bovine bone mineral

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INTRODUCTION

Dental implants have become a popular alternative in oral rehabilitation in the past two decades, and numerous studies regarding dental implants therapy have showed successful outcomes. [1-4]

The posterior maxilla commonly presents with limitations in alveolar bone height for implant placement. Loss of maxillary molars leads to rapid loss of the alveolar bone that represents the maxillary sinus floor and increases the maxillary sinus cavity causing a phenomenon known as sinus pneumatization; bone loss can extend to the alveolar process, leaving a thin wall of bone between the maxillary sinus and the oral cavity. This may compromise the alveolar bone height thereby limiting the possibilities of future implant placement in the affected sites. [5-7]

The successful placement and integration of endosseous implants under such circumstances requires augmentation of the maxillary sinus floor. This procedure may help increases the available alveolar bone height facilitating future implant placement in the compromised sites. Elevating the sinus involves augmenting and grafting the floor of the maxillary sinus with bone graft material. The grafting materials, which are derived from or composed of tissue involved in the growth or repair of bone, could encourage bone formation or stimulate quicker bone growth in bone implant sites. [8-10]