

**Evaluation of Anterior Alveolar Ridge Reconstruction with
Allogenic Bone Plate and Autogenous Cortical Bone Chips:
A Radiographic and Histological Clinical Study.**

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DEDICATION

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List of Abbreviations

CBCT	Cone Beam Computed Tomography
HU	Hounsfield units
GBR	Guided Bone Regeneration
DO	Distraction Osteogenesis
MISR	Mean implant survival rate
MCR	Mean complication rate
PDGF	Platelet Derived Growth Factor
FGF	Fibroblast Growth Factor
IGF	Insulin-like Growth Factor
BMPs	Bone Morphogenetic Proteins
TGF- β	Transforming Growth Factor beta
ePTFE	expanded polytetrafluoroethylene
PTFE	polytetrafluoroethylene
FDBA	Freeze Dried Bone Allograft
DFDBA	Demineralized Freeze Dried Bone Allograft
DBMs	Demineralized Bone Matrices
HA	Hydroxyapatite
AOBG	Autogenous onlay bone grafting
ARS	Alveolar ridge splitting
M1	Measurement 1 at the apical level
M2	Measurement 2 at the mid-level
M3	Measurement 3 at the crestal level
VAS	Visual Analog Scale
EDTA	EthyleneDiamineTetraAcetic acid
H&E	Hematoxylin and Eosin stain
SD	Standard deviation
Num. (#)	Number

Introduction

Introduction

Successful implant surgery is depending on the achievement of successful osseointegration and the establishment of an ideal foundation for implant supported prosthetic restoration. The internal structure and the vitality of bone, which are described in terms of quality, are responsible for the successful osseointegration.

A relative contraindication for dental implant is the insufficient bone volume. There are minimum dimensions that the remaining alveolar ridge must possess for implants to be placed.

When the proper dimensions each with respect to the area the implant will be placed in are not present, it will be necessary to augment the size of the alveolar ridge prior to implant placement using various grafting techniques which is guided by a lot of criteria. Without grafting, the implants may have to be placed in anatomically unfavorable positions or may have adverse angulation.

These compromises can lead to unaesthetic restorations, mechanical failure and ultimately failure of the implant as described by Branemark that, the success of an osseointegrated implant where there is direct functional and structural connection between ordered living bone and surface of a load bearing implant. So both bone quantity and quality at the implant placement site are important and inseparable parameters in dental implant planning.

Various bone grafting materials are available for reconstruction of alveolar deficiencies which include autografts, allografts and xenografts. The success rate of grafted bone has been excellent to moderate depending on various conditions. There are numerous lateral alveolar reconstruction techniques and protocols to restore the alveolar ridge width such as graft particulate with guided bone regeneration membranes, onlay grafting, ridge splitting and alveolar distraction osteogenesis. The choice between the different augmentation procedures is depending on the morphology of the defect.

The literature is full of different trials of combinations and modifications for these materials and techniques, in order to enhance the clinical outcome and patient satisfaction.