بسم الله الرحمن الرحيم

"علم الإنسان ما لم يعلم"

صدق الله العظيم

سورة العلق آية "٥"

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To my Family,

My husband,

And my sweetheart,Semsem &marium.

EVALUATION OF THE EFFECT OF SYSTEMIC BISPHOSPHONATE ADMINSTRATION ON HEALING AFTER SURGICAL MANGEMENT OF CHRONIC PERIODONTITIS

Thesis

Submitted for partial fulfillment of requirement of Doctor degree in Oral Medicine and Periodontology

Faculty of Oral and Dental Medicine
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دراسة تأثير تعاطى عقــار البيسفوسفونات على الالتئـام بعد الجراحة المختصة فى علاج سمحاق السنخ المزمن

رساله مقدمه من
الطبيبة ابتهال حمدى على

توطئة للحصول على درجة الدكتوراه فى
طب الفم و علاج اللثة و التشخيص

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List of abbreviations

Aa	Actinobacillous actinomycetem-comitans
BMP	bone morphogenetic protein
IGF	insulin like-growth factor
bFGF	Basic Fibroblast Growth Factor
PDGF	platelet derived growth factor
IL-6	interlukin-6
TRAP	tartrate-resistant acid phosphtase
M-CSF	Macrophage Colony Stimulating Factor
PTH	parathyroid hormone
ATP	Adinosine triphosphate
SPARC	secreted protein, acidic, rich in cysteine
IL-1	Interleukin-1
IL-6	Interleukin-6
RANKL	receptor activator of nuclear factor κβ ligand
RANK	receptor activator of nuclear factor κβ
BMD	bone mineral density
SD	standard deviations
NHANES III	National Health and Nutrition Examination Survey
DEXA	dual energy X-ray absorptiometry
SEXA	single energy X-ray absorptiometry
ACH	alveolar crestal height
IL-1β	Interleukin-1β
PMNs	Polymorphnuclear Leukocytes
SD	Standered Deviation
TGF-α/β	Transforming Growth Factor α/β
TNF-α	Tumor Necrosis Factor-α
IFN-β &IFN-γ	as interferon-beta and -gamma
CEJs	cementoenamel junctions
DDR	Direct Digital radiography

RVG	RadioVisioGraphy
CCD	charge-coupled device
CMOS	complimentary metal oxide semiconductor
CMOS-APS	complementary metal oxide semiconductor active pixel sensor
SDD	subantimicrobial dose doxycycline
NSAIDs	non-steroidal anti-inflammatory drugs
BMU	Basic Multicellular Unit
MMP	Matrix Metalloproteinase
ONJ	osteonecrosis of jaw
YM175	disodium dihydrogen (cycloheptylamino) methylene-1, 1-bisphosphonate
PGE_2	prostaglandin E_2
$PGF_{2\alpha}$	prostaglandin E_2
LTB_4	leukotriene B_4
PAF	platelet activating factor
CAL	Clinical attachement level
PD	probing depth
PI	Plaque Index
GI	Gingival Index
PD	Pocket depth
BPS	bisphosphonate

AIM OF THE STUDY

The aim of the present study is to evaluate the effect of systemic bisphosphonate administration on healing after Modified Widman flap in management of chronic periodontitis.

Adipose tissue is a site for extraglandular estrogen production from adrenal precursors.

Subjects, Materials and Methods

- **Patients Selection:**

The study population included forty non-smoking females 50 to 65 years old, who were at least 1 year postmenopausal.

They were free from any systemic diseases according to the **Modified Cornell index Medical index (Brightman, 1994).**Patients did not receive antibiotics, drugs to inhibit gastric acid secretion (for more than 2 weeks), non-steroidal anti-inflammatory drugs(NSAIDS), glucocorticoids, hormone replacement therapy or any other drug known to alter bone calcium metabolism during the last 6 months.

All participants were diagnosed as having chronic peiodontitis according to the criteria of the American Academy of Periodontology (2000).

Each patient presented at least two teeth with probing pocket depth ≥5 mm with intraosseous component, plaque index of 2 or more, gingival index of 2 or more and radiographic evidence of bone loss.

The participants were age matched into 2 groups of twenty each:

Group one (Alenodronate group):

Twenty patients diagnosed as having osteopenia/ osteoporosis according Singh Index were recruited from the outpatient clinic of Orthopaedic Department at faculty of Medicine, Cairo University, Fig.(11) and(12).They received systemic Alenodronate (osteomefa) 70mg/week for 6 months for prevention or treatment of osteopenia in conjunction with periodontal treatment.

***Group two* (control group):**

This group included 20 non-osteopenic patients recruited from the outpatient clinic of Oral and Dental Medicine, Cairo University. They did not receive any medication except periodontal treatment.