Efficacy and Release Profile of Subgingivally Delivered Simvastatin Utilizing In Situ forming Implant as an Adjunctive in Treatment of Severe Chronic Periodontitis

(A Randomized Controlled Clinical Trial)

Thesis submitted in Partial Fulfillment of the Requirements of Master Degree in Oral Medicine, Periodontology and Oral Diagnosis

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2020

DEDICATION

To my beloved parents, whom I wouldn't have reached this place without their passionate help, support and encouragement; I dedicate all my success to you and I hope to make you always proud.

To my husband, who patiently provided me with all the needed support and encouragement to continue.

To my father and mother in law who supported and encouraged me.

To the greatest gift from Allah ever, my daughters, Mariam and Hala.

To my sisters, all my beloved family and my friends; who surrounded me with support, happiness and hope.

ACKNOWLEDGMENT

First of all, great thanks to “Allah” to whom I relate any success in my life.

My sincere gratitude to Prof.Dr. Hala Kamal Abdel Gabar, Professor of Oral Medicine, Periodontology and Oral Diagnosis, Faculty Of Dentistry, Ain Shams University, for her kind assistance, sincere encouragement and valuable criticism. It was a great honor for me to work under her supervision.

I am deeply thankful to Dr. Ola Mohamed Ezzat, assistant professor of Oral Medicine, Periodontology and Oral Diagnosis, Faculty of Dentistry, Ain Shams University, for her most generous support in every step in this work, valuable advice and precious comments.

I would like to express my deep appreciation to Dr. Mohamed Abdallah Ahmed , Lecturer of pharmaceutics and industrial pharmacy, Faculty of pharmacy, Cairo University, for his valuable time, help and guidance. This work was accomplished by his great assistance and support.

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LIST OF ABBREVIATIONS

BMP-2	Bone morphogenic protein-2
BOP	Bleeding on probing
CAL	Clinical attachment level
$(Ca)_3P_2$	Calcium phosphate
CEJ	Cemento-enamel junction
GCF	Gingival crevicular fluid
GI	Gingival index
HMGCoA	Hydroxy-methyl-glutaryl co-enzyme A
IL	Interleukin
LPs	Lipopolysaccharides
Lrr	Leucine rich repeat
MMP	Matrix metalloproteinase
NF-kb	Nuclear factor kabba B
NSPT	Non surgical periodontal treatment
OPG	Osteoprotegerin
PD	Probing depth
PI	Plaque index
PGA	Poly glycolic acid
PGE2	Prostaglandin E2
PLA	Poly lactic acid
PLGA	Poly (D,L-lactic-co-glycolic acid)
PMNS	Polymorphonuclear Leukocytes
RANKL	Receptor activator of nuclear factor kappa-B ligand
TNF-α	Tumor necrosis factor- α
VEGF	Vascular endothelial growth factor