شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

"Clinical and Biochemical Assessment of Nanohydroxyapatite Combined with Lycopene Gel in Treatment of Grade II FurcationDefects: A Randomized Controlled Clinical Study"

Thesis
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LIST OF ABBREVIATIONS

Abbreviation	Term
8-OHDG	8-hydroxydeoxyguanosine
AAP	American Academy of Periodontology
ANOVA	Analysis Of Variance
BL	Bone Level
BMP-2	Bone Morphogenic Protein-2
CAL	Clinical Attachment Level
CBCT	Cone-beam Computed Tomography
CEJ	Cementoenamel junction
CM	Collagen Membrane
ELISA	Enzyme-linked immunosorbent assay
FI	Furcation Involvement
GCF	Gingival Crevicular fluid
GI	Gingival Index
GTR	Guided Tissue Regeneration
HA	Hydroxyapatite
HCAL	Horizontal Clinical Attachment level
HPC	Hydroxypropyl Cellulose
HRP	Horseradish Peroxidase
LP	Lycopene
MAX H	Maximum Horizontal
MAX V	Maximum Vertical
MDA	Malondialdehyde
n-HA	Nanohydroxyapatite
NSPT	Non-Surgical Periodontal Therapy
OFD	Open Flap Debridemenrt
PBS	Phosphate-Buffered Saline
PD	Pocket Depth
PDL	Periodontal ligament
PI	Plaque Index
PMNS	Polymorphonuclear leukocytes
ROS	Reactive Oxygen Species
RTU	Remote Terminal Unit
RPD	Relative Pocket Depth
SRP	Scaling and Root Planing
TCP	Tricalcium Phosphate
TMB	Tetramethylbenzidine
VCAL	Vertical Clinical Attachment level

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INTRODUCTION

Periodontal diseases are complex, multifactorial, polymicrobial infections affecting 10–15% of adult populations worldwide**.** Furcation involvement (FI) may be defined as the invasion of the bifurcation and trifurcation of multirooted teeth by the effect of periodontal disease ***(Carranza, 2009; Petersen and Ogawa, 2012).***

An extension of inflammation from gingiva into the adjacent bone and periodontal ligament is affected by many factors such as age, gender, ethnicity, income, social class, and educational status. The degree to which a lesion progresses is affected also by several factors; such as inflammatory response, type of bacteria present, and local factors which cause plaque accumulation ***(American Academy of Periodontology, 2001)***. The basic principle of nonsurgical periodontal treatment is the removal of bacterial load, to allow the body to return to the healthy state ***(Ower et al., 2013).***

Periodontal disease affecting multi-rooted teeth exposing the furcation area, poses an additional challenge for the clinician to manage. This is because the unfavorable complex morphology and restricted-access area that characterize furcation defects limit not only the efficacy of nonsurgical and surgical therapies but also the patient's self-performed plaque control ***(Chiu et al., 1991).*** Furthermore, the progression of the disease in the furcation area exhibits horizontal and/or vertical patterns of destruction that may result in an increased risk for tooth loss ***(Dannewitz et al., 2016).***

Several surgical approaches have been proposed for the treatment of molars with FI, including guided tissue regeneration (GTR), bicuspidization,