

hossam maghraby



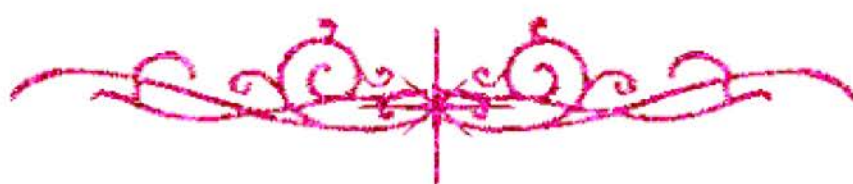
بسم الله الرحمن الرحيم



hossam maghraby



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



hossam maghraby



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

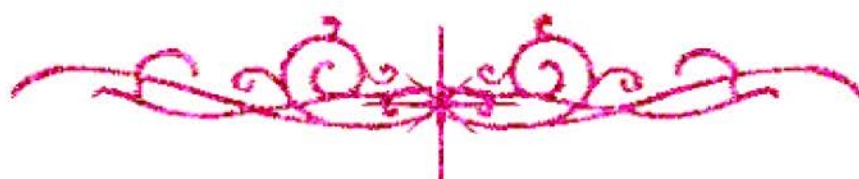
قسم

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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



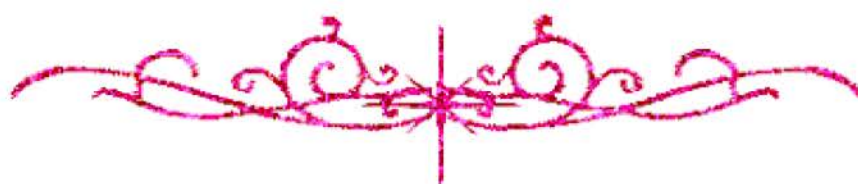
hossam maghraby



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



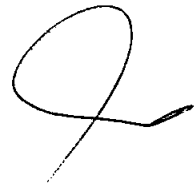
hossam maghraby



بالرسالة صفحات
لم ترد بالأصل



بسم الله الرحمن الرحيم
الحمد لله الذي هدانا لهذا
ما كنا لنهتدي لولا أن هدانا الله



**A STUDY OF APOPTOTIC CHANGES
AND DNA FRAGMENTATION OF GINGIVA AFTER
COLCHICINE ADMINISTRATION IN RATS**

B19A04

THESIS PROPOSAL

Presented to the Faculty of Dentistry

Alexandria University

In partial fulfillment of the requirements

for the Degree of

MASTER IN ORAL BIOLOGY

by

MOHAMED TAHA HUSSEIN SHREDAH

(B.D.S, 1997)

FACULTY OF DENTISTRY

Alexandria University

2003

SUPERVISORS

Prof. Nagah Ahmed Rashad

Professor of Oral Biology

Faculty of Dentistry,

Alexandria University

Prof. Mohamed Sayed Salama

Professor of Molecular Biology

Faculty of Science

Ain Shams University

Dr. Ali Abdel-Halim Abdel-Azim

Assistant Professor of Oral Biology

Faculty of Dentistry,

El Minia University

Dr. Sahar Shafiek Karam

Assistant Professor of Oral Biology

Faculty of Dentistry,

Alexandria University

Acknowledgment

I wish to express my deepest gratitude and thanks to God whose magnificent help is the factor in everything we can do in life.

I am deeply grateful to my *Prof. Nagah Ahmed Rashad*, Professor of Oral Biology , Faculty of Dentistry, Alexandria University, for her valuable advices, generous efforts, her careful reading, encouragement and her generous help in accomplishment of the critical steps in this research that words cannot describe.

I would like to express my profound gratitude to *Prof. Mohamed Sayed Salama*, Professor of Molecular Biology, Faculty of Science, Ain Shams University, for his continuous guidance and helpful support throughout every step of this work which I shall never forget.

I would like to express my sincerest appreciation and deep gratitude to *Dr. Ali Abdel-Halim Abdel-Azim*, Assistant Professor of Oral Biology, Faculty of Dentistry, El Minia University, for his keen supervision, precious help, support and encouragement.

I wish to express my sincere thanks to *Dr. Sahar Shafiek Karam*, Assistant Professor of Oral Biology, Faculty of Dentistry, Alexandria University, for her sincere efforts, continuous encouragement and her unlimited help and co-operation which made this work possible.

I owe my sincere gratitude to **Prof. Shadia Hussein**, Professor of Oral Biology and head of Oral Biology, Faculty of Dentistry, Alexandria University, for her generous help, co-operation and her keen support .

I would also like to express my gratitude and deep thanks to all staff members and to my colleagues in the oral Biology department, Faculty of Dentistry, Alexandria University, and El Minia University for their help and support.



Contents

Chapter		Pages
	List of abbreviation.....	i
	List of Figures	ii
	List of Tables	iii
1	Introduction	1
II	Review of Literature	4
III	Aim of the Work	18
IV	Material and Methods	19
V	Results	35
VI	Discussion	67
VII	Summary	76
VIII	Conclusion	79
IX	Recommendation	80
	References	81
	Protocol of thesis	
	Arabic Summary	

List of abbreviation

CFTR	→	cystic fibrosis transmembrane regulator
DNA	→	Deoxyribonucleic acid
RNA	→	ribonucleic acid
bp	→	base pairs
kpb	→	kilo base pairs
A	→	Adenine
G	→	Guanine
C	→	Cytosine
T	→	Thymine
U	→	Uracil
CH ₃	→	Methyl group
H ₃ PO ₄	→	Phosphoric acid
(PO ₃)	→	phosphate
H ₂ O	→	water
nt	→	nucleotide molecule
H bond	→	Hydrogen bond
M phase	→	mitosis
G ₁ phase	→	The first gap phase
S phase	→	The synthesis phase
G ₂ phase	→	The second gap phase

MTC	→ (2-methoxy - 5 - (2',3',4' - trimethoxyphenyl) - 2, 4, 6 - cycloheptatrien -1- one.
DAB chromogen	→ diaminobenzidine chromogen
ABC	→ Avidin - Biotin peroxidase complex
EDTA	→ Ethylene Diamine Tetraacetic Acid
TAE	→ Tris acetate EDTA
TE buffer	→ Tris EDTA buffer
Na cl	→ sodium chloride
SDS	→ sodium dodecyl sulphate
RFLP	→ restriction fragment length polymorphism
PMNL	→ polymorphonuclear leuckocytosis

List Of Figures

Figure N ^o	Title	Page
Fig. (1)	Representation of the sugar – phosphate backbone and nucleotide pairing of the DNA double helix (P-phosphate, A-adenine T-thymine, G-guanine and C-cytosine) .	8
Fig. (2)	In DNA molecule two antiparallel strands that are complementary in their nucleotide sequence are base paired in a right-handed double helix with about 10 nucleotide base pairs per helical turn. A schematic representation (left) and a space – filling model (right) are illustrated here..	8
Fig. (3)	Diagrammatic representation of the cell cycle.	12
Fig. (4)	Diagrammatic representation of mitosis (M phase of the cell cycle) which starts at the end of G2 phase and ends at the start of the next G1 phase. It includes the four stages of nuclear division (mitosis) as well as cytoplasmic division (cytokinesis).	12
Fig. (5)	DAKOLSAB [®] 2 System detection kit.	23
Fig. (6)	Micropipette and Eppendrof tubes.	32
Fig. (7)	Vortex	32
Fig. (8)	Microcentrifuge	32
Fig. (9)	Oven	32
Fig. (10)	Spectrophotometer	32
Fig. (11)	The method of agarose gel preparation	33
Fig. (12)	Loading	34
Fig. (13)	Electrophoresis unit (Biometra, Germany) including agarose cell and power supply.	34

Fig. (14)	UV transilluminator (Biometra, Germany) with UV light off.	34
Fig. (15)	UV transilluminator with UV light on and gel is under examination.	34
Fig. (16)	Polaroid camera (DS 0.7 x HOOD)	34
Fig. (17)	Photography of agarose gel using Polaroid camera.	34
Fig. (18)	Photomicrograph of the control group shows normal gingival epithelium which consists of the basal, prickle, granular and keratinized layers. Connective tissue stroma appears normal with normal inflammatory cells. (H & E X 100).	37
Fig. (19)	Higher magnification of the previous figure which shows obvious mitotic activity of the basal and parabasal cell layers (blue arrows). (H & EX 400).	37
Fig. (20)	Photomicrograph of the gingival tissue of one week group shows non obvious clear changes compared with the control group. (H & E X 100)	37
Fig. (21)	Higher magnification of the previous figure. (H & E X 400).	37
Fig. (22)	Photomicrograph of the gingival tissue of four weeks group shows moderate increase in the epithelial thickness with hyperkeratinization. Connective tissue stroma shows degeneration with decreased number of inflammatory cells (blue arrow) (H & E X 100).	38
Fig. (23)	Higher magnification of the previous figure shows a slight widening of the intercellular spaces (blue arrows). (H & E X 400)	38