الآيــــة

بسير الله الرحمن الرحيير

قال تعالي:

صدق الله العظيم

سوسرة النساء الآية 26

Dedication

To my father and mother,

Brother,

Sister,

Friends and all whom

I love and respect

Acknowledgment

Firstly, thanks are due to AIMIGHTLY ALLAH for giving me the knowledge, health and patience to complete this research.

I would like to express my thanks and gratitude to my supervisor Prof. Ahmed Abdelrahim Gameel, Faculty of Veterinary Medicine, Khartoum University for his help was and guidance. His valuable advice and his patience in reading and correcting the thesis are greatly appreciated.

I am deeply indebted to Mr. Sharf aldin Alradi Abead, department of

histology, Sudan university of science and Technology for technical help.

I am extremely grateful to my colleagues Abu-Bakr yousif who helped me in statistical analysis.

Last but not least I would love to thank all my friends for their support

Abstract

This study was carried out in WD hammed village River Nil State Sudan to assess the effect of smoking cigarettes on oral mucosal.

The studies have carried out during the period from May to December 2012, the study included 100male cigarette smokers and 50 non smoker the average of ages was 50 years.

The samples were collected from bucal mucosa, and stained by two methods Pap stain and Diff quick.

Epithelial dyskaryosis was detected in four (4%) of the 100 studied subjects, it also shows that an Infection detect in nineteen (19%) of the smoker in the different age group, show heavy neutrophils infiltration in the buccal smear indicated infection. Only two individual in control group (51-70years old) had relatively mild neutrophils infiltration. Dyskaryosis was seen in buccal smear of four older smokers (51-70years) who smoked more than 31years. Three of those smoked 16-20 cigarettes daily .

Smoking may be regarded as a risk factor developing oral epithelial dyskariotic, therefore it is better to users of cigarettes subject to periodic inspection.

Oral Exfoliative cytology is reliable, simple and non invasive procedure that can be implemented for comprehensive oral screening program.

Pap stain was preferred to diff quick because it stains nuclei very clearly. Further studies covering large sample size is recommended.

ملخص الأطروحة

أجريت هذه الدراسة في ولاية نهر النيل في السودان لتقيم تاثير تدخين السجاير على الغشاء المخاطي الفموي .

وقد أجريت الدراسة خلال الفتره من مايو الي أكتوبر 2012م حيث شملت 100 شخص من مدخني السجاير و 50 شخص غير مدخن متوسط اعمارهم 50عاما, تم جمع العينات من بطانة الفم وتم صبغها بطرقتي البابا نيكولا و الديف كويك

اظهرت الدراسه ان اربعه اشخاص (4%) جميعهم مدخنين لديهم ظاهره شاذه النواه, كما اظهرت ان تسعه عشر شخص (19%) من المدخنين لديهم حالات التهابيه وشخصين من غير المدخنين لديهم حالات التهابيه خفيفه اعمارهم 71و 50 عاما.

وان ظاهره شذوذ النواه تظهر في الاشخاص الذين أعمارهم بين 50-71عاما وفتره تدخينهم اكثر من 30 عاما ويدخنون بين 16-20سجاره يوميا.

كما خلصت الدراسة إلى إن دراسة الخلايا المتساقطة سهلة وبسيطة وذات قيمة في تحديد الحالات الالتهابية والتغيرات الخلوية الأخرى وهذا من شانه أن يساعد في تنفيذ برامج تثقيف المدخنين, وان طريقه البانيكولا افضل من الدف كويك لانها تظهر النواه واضحه جدا.

توصي الدراسه بإجراء المزيد من الدراسات في هذا الموضوع بصورة أوسع وأكثر شمولية.

Table of content

الآية	I
Dedication	II
Acknowledgment.	III
English Abstract	IV
Arabic Abstract	V
List of content	VII
List of table	IX
List of figures	IX
List of Photomicrograph	IX
List of Abbreviation	X
APPENDIX	XI

Chapter one

Introduction

1.Introduction	1
1-2 Objectives	3
1.2.1 1.2.1General objective	3
1.2.2Specific objectives	3

Chapter Tow

Literature review

2. Literature review	4
2.1. Anatomy of oral cavity	4
2.1.1 Lip	4
2.1.2 Tongue	4

2.1.3 Gingival	4
2.1.4 The palate	4
2.1.5The teeth	5
2.1.6 Gums	5
2.2 Cytology of oral cavity	5
2.3 Oral flora	5
2.4 Inflammatory disorders	5
2.4.1 Acute and chronic inflammatory	5
2.4.2 Specific inflammatory condition	6
2.4.2.1Candidiasis7	6
2.4.2.2 Actinomycosis	6
2.4.2.3 Tuberculosis	6
2.4.2.4 Syphilis	6
2.4.2.5 Monilliasis	7
2.4.2.7.Cytomegalovirus (CMV)	7
2.6 Premalignant lesions	7
2.6.1 Epithelial dysplasia	7
2.6.2Erythroplakia (Erythroplasia)	7
2.6.3Leukoplakia (Idiopathic)	8
2.7. Neoplastic conditions	8
2.7.1 Epidemiology	8
2.7.2Aetiolgy1	8
2.7.2.1Tobacco use	9
2.7.2.2Cigarette smoking	9
2.7.2.3Smokeless tobacco	9
2.7.2.4Alcohol	9
2.7.2.5.Virus	10
2.7.2.5.1.Human papilloma virus	10
2.7.2.5.2.Epstein Barr virus	10
2.7.2.5.3.Human immunodeficiency virus	10
2.7.2.6.Diet and nutrition	10
2.7.2.7.Ultraviolet light	11
2.7.2.8.Occupation	11
2.7.2.9.Oncogenes and tumor-suppressor gene	11
2.8. Effect of smoking on body systems	11

2.8.6. Smoking and pregnancy	14
2.8.5. Effect on the immune system	14
2.8.4. Effect of smoking on reproductive system	13
2.8.3.Effect of smoking on respiratory system	12
2.8.2.Effect of smoking on cardiovascular system	11
2.8.1. Effect on the digestive tract	11

Chapter three

3. Material and method

3.1.Study design	15
3.2.Study population	15
3.3.Ethical consideration	15
3.4.Sample collection and smear preparation	15
3.4.Papanicolaou procedure	16
3.5.Diff Quik	16

Chapter four

Results

4. Results	18

Chapter five

5.Discassion

5.1Discussion	37
5.2Conculutions	39

5.3Recommendations	39
References	40

List of tables

Table1: Distribution of study subject by age	19
Table2: Buccal cytology in population study	20
Table3: Relation between cytological change and Age	21
Table4: Buccal cytology in relation to duration of smoking	22
Table5: Relation between number cigarette/day and cytological changes	23

List of figures

figures.1.Buccal cytological change in population study	24
figures.2. Distrubution of study subject by age	25
figures.3. Relation between cytological change and Age	26
figures.4.Buccal cytology relation to duration of smoking	27
figures.5. Relation between number cigarette/day and changes	28

List of Photomicrograph

Photomicrograph (1) normal buccal smear	29
Photomicrograph (2) normal buccal smear	30
Photomicrograph (3) neutrophils infiltration	31
Photomicrograph (4) neutrophils infiltration	32
Photomicrograph (5) Dyskariotic	33
Photomicrograph (6) Dyskariotic	34
Photomicrograph (7) smear stain by diff quick	35

Photomicrograph (8) smear stain by diff quick	36

APPENDIX

APPENDIX (I)	43
APPENDIX (II)	44

List of Abbreviation

Co Carbon Monoxide

HCN Hydrogen Cyanide

TSNAs Tobacco-Specific Nitrosamines

T.B Tuberculosis

AIDS Acquired Immunodeficiency Syndrome

HPV Human papilloma virus

CMV Cytomegalovirus

EBV Epstein Barr virus

EGFR Epidermal Growth Factor Receptor

PAHs Phenolpolyaromatinc Hydrocarbons