

الآية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى

الْحَمْدُ لِلَّهِ الَّذِي أَنْزَلَ عَلَى عَبْدِهِ الْكِتَابَ وَلَمْ يَجْعَلْ لَهُ عِوَجًا

صدق الله العظيم

سورة الكهف- الآية 1

Dedication

I dedicate this work to

My mother who loves me unconditionally

My father who raised me to be the person I am

My brothers and sisters

Friends, teachers and colleagues

Acknowledgement

I would like to thank the all might god for giving me the faith and strength to accomplish what I have reached in my life

My sincere thanks to my supervisor Dr. Hassan Elsiddig

To all those who helped me through this study: Manal, Amira, Tahani, Mousa, Mohsin, Eisa, Amna and Abd elmajeed

Abstract

This is a hospital- based cross sectional study conducted at Khartoum state during the period of March to August- 2012 aimed at determining the cytomorphological pattern in the sputum smears of pulmonary tuberculosis infected Sudanese patients attending Alshaab and Tropical Diseases Teaching Hospitals .

One hundred and fifty patients were included in this study, of which hundred patients (66.7%) were infected with pulmonary *tuberculosis* (+ve Zn stain) considered as study group and fifty patients (33.3%) were free from infection (-ve Zn stain) considered as control group. Fifty three of the patients were male, the remaining forty seven were female. Forty six patients were with age ranged between 33-53 years old.

Asputum sample was collected from each patient, smeared, fixed and stained with MGG stain.

Sixty two of the patients smears showed a features of chronic inflammation(lymphocytes,macrophages along with necrotic material at the background), twenty four showed features of acute inflammation(polymorph nuclear leukocytes) and only four patients appeared with normal cytological finding.Thirty six of control samples appeared with normal cytological features, tenwith acute inflammation and only four were found with chronic inflammatory changes.

No significant relation between cytological pattern and alcohol abusing (P value 0.2).

No relation between gender and cytological pattern (P value 0.6).

The study showed a significant difference in the cytological finding between newly discovered patients and patients under treatment (P. value = 000).

الخلاصة

هذه دراسة مقطعية مستشفوية اجريت فى ولاية الخرطوم فى الفترة من مارس – اغسطس 2012 لمعرفة النمط الخلوى فى تفاق مرضى درن الجهاز التنفسى المترددى علي مستشفى الشعب ومستشفى المناطق الحارة.

شملت الدراسة مائة و خمسون مريضا, مائة مريض (66.7%) مصابون بمرض الدرن (موجبى صبغة زد ان) (يم اختيارهم مجموعة دراسة, وخمسون مريضا) (33.3%) لم يكونوا مصابين بالمرض (سالبى صبغة زد ان) اعتبروا مجموعة ضبط.

ثلاثة وخمسون مريض كانوا ذكورا وسبعة واربعون كانوا اناث.

غالبية المرضى ستة واربعون كانوا فى الفئة العمرية 33-53.

جمعت عينة تفاق من كل مريض مسحت على شريحة, ثبتت ثم صبغت بصبغة ام جى جى.

اثان وستون مريضا اظهرت مسحاتهم مظاهر التهاب مزمن, واربعة وعشرون مريضا اظهروا التهاب حاد, بينما الاربعة عشر مريضا اظهرت مسحاتهم موجودات خلوية طبيعية.

غالبية مسحات مجموعة الضبط, ستة وثلاثون اظهروا نمط خلوي طبيعى, عشرة التهاب حاد فقط اربعة وجدوا بمظاهر التهاب مزمن.

ليست هنالك علاقة ذات دلالة احصائية بين النمط الخلوى وشرب الكحول (قيمة معنوية = 0.2).

ليست هنالك علاقة بين الجنس والنمط الخلوى (قيمة معنوية = 0.6).

اظهرت الدراسة فرق ذو دلالة احصائية فى الموجودات الخلوية بين المرضى الذين تم تشخيصهم حديثا والمرضى تحت العلاج .

List of contents

Content	Page No
الاية الكريمة	i
Dedication	ii
Acknowledgment	iii
Abstract	iv
الخلاصة	v

Chapter One

Introduction and Literature Review

1-1 Introduction	1
1-2 Objective	3
1-3-1 Anatomy of respiratory system	4
1-3-2 Histology of respiratory system	4
1-3-3 Cytology of respiratory tract	5
1-3-3-1 The squamous epithelium	5
1-3-3-2 Ciliated bronchial columnar cells	5
1-3-3-3 Goblet cells	6
1-3-3-4 Non epithelial cells origin	6
1-3-3-5 Mucus and other non cellular materials	7

1-3-3-6 Foreign materials in sputum	7
1-3-3-7 Abnormal epithelial cells	7
1-3-4-7-1 Squamous cells	7
1-3-3-7-2 Bronchial cells	8
1-3-4 Cytopathology of respiratory tract	9
1-3-4-1 Acute inflammatory process	9
1-3-4-2 Chronic inflammatory process	9
1-3-4-2-1 Non specific chronic inflammatory proce	9
1-3-4-2-2 Specific chronic inflammatory process	9
1-3-4-2-2-1 Bacterial infection	9
1-3-4-2-2-2 Viral infection	10
1-3-4-2-2-3 Fungal infection	10
1-3-4-2-2-4 Parasitic infection	11
1-3-4-3 Neoplasms of respiratory system	12
1-3-4-3-1 Squamous cell carcinoma	12
1-3-4-3-2 Adenocarcinoma	13
1-3-4-3-3 Bronchoalveolar carcinoma	13
1-3-4-3-4 Large cell undifferentiated carcinoma	13
1-3-4-3-5 Small cell undifferentiated carcinoma	13
1-3-4-3-6 Adeno squamous carcinoma	14
1-3-4-3-7 Carcinoid tumors	14
1-3-4-3-8 Adenoid cystic carcinoma	14
1-3-4-3-9 Metastatic tumors of the lung	15

1-3-5 Pathology of tuberculosis	16
1-3-6 Diagnostic procedures	18
1-3-6-1 Bacteriological methods	18
1-3-6-2 Cytological methods	18
1-3-6-3 Radiological methods	20
1-3-6-4 Other methods	20

Chapter Two

Materials & Method

Materials and Methods	21
-----------------------	----

Chapter Three

Results

Results	23
---------	----

Chapter Four

Discussion

Discussion	32
------------	----

Chapter Five

Conclusion & Recommendations

5-1 Conclusion	34
5-2 Recommendations	35

REFERENCES

References 36

Appendix

Appendix1 41

Appendix2 42

List of tables:

Table NO	Title	page
1	Distribution of sample type	25
2	Description of study population by age	26
3	Description of study population by gender	27
4	Frequencies of smoking among case and study group	28
5	Frequencies of alcohol abusing among case and control group	29
6	Description of study population by job occupation	30
7	The cytological finding among study group	31

List of photographs