

**بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ**

**Sudan University of Science and Technology**  
**College of Graduate Studies**

**Cytological Assessment of Vaginal  
Discharge among Women in Khartoum  
Teaching Hospital**

By

**Omeima Mohammed Omer Hamed**

*(BSC Medical Laboratory Omdurman ELahliah University, 2000)*

Supervisor

**Dr. Hussain Gad El-Karim Ahmed**

*(Assistant Professor (U of K*

**A thesis submitted in partial fulfillment for the degree of M.Sc in  
Histopathology and Cytology**

**2006**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

رَبِّ أَوْزَعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي  
أَنْعَمْتَ عَلَيَّ وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ  
صَالِحًا تَرْضَاهُ وَأَصْلِحْ لِي فِي ذُرِّيَّتِي إِنِّي  
تُبْتُ إِلَيْكَ وَإِنِّي مِنَ الْمُسْلِمِينَ (15)

صدق الله العظيم

سورة الأحقاف الآية 15

# Dedication

*To the soul of my father and brother.*

*To my mother who monitored  
my passage throughout.*

# ACKNOWLEDGEMENT

*I would like to express my thanks and deep gratitude to my supervisor **Dr. Hussain Gad El-Karim**, Assistant Professor, Faculty of Medical Laboratory, University of Khartoum, for his wise guidance, valuable advise, which contributed very much to the completion of this thesis.*

*I am so thanks to the Port-Sudan Ahlia Faculty, Red Sea State, Port-Sudan for giving me this chance to have my master degree, by sponsoring me, giving me the full time to do my work, which help me a lot.*

*It is a pleasure to acknowledge the help I have received from Dr. Khalid Hussien, Consultant of Obstetrics and Gynaecology, Faculty of Medicine, University of Khartoum for his patience and support.*

*My thanks are extended to Ustz Abdalla Hassab Elnabi for his valuable suggestions and comments.*

*I owe a great gratitude to all my family members for their encouragement and support, also my thanks extended to all my friends and every body helped me to do this work.*

## **ABSTRACT**

This is descriptive study carried out in Khartoum Teaching Hospital during the period from May 2005 to December 2005. The study assessed the causes of vaginal discharge among women, using cytological methods (papanicolaou techniques). Fifty samples were collected from women, their ages ranging from 20 - 45 years.

The cytological smears revealed the following findings. Normal (physiological discharge) was found in 39 (78%) of the study subjects. Hence, abnormal cytological findings were detected among 11 (22%) of the study population these, Include 8 (16%) were monilia, 2 (4%) *Trichomonas vaginalis* and 1 (2%) dyskaryosis.

White discharge was observed among 40 (80%). Hence, 35 (87.5%) of white discharges were found normal. Six (60%) of yellow discharges were found in association with causes. Twenty-five (86.2%) of non offensive discharges were found normal. However, 7 (33.3%) of offensive discharges were found in association with different causes.

*Monilia* and *trichomonas vaginalis* smears showed inflammatory changes. However, both smears accompanied with polymorphnuclear- leucocytes infiltration.

On the basis of this study, cytological assessment of vaginal discharges is essential for diagnosis of female genital tract inflammation, pre-malignant and malignant conditions. We recommended the use of cytology to define where it may hide early pre malignant changes.

## ملخص الدراسة

إجريت هذه الدراسة فى مستشفى الخرطوم التعليمى فى الفترة من مايو 2005 الى ديسمبر 2005.

تهدف هذه الدراسة الى تحديد اسباب الافرازات المهبليه باستخدام الطرق الخلوية (طريقة البابينيكولو).

فى هذه الدراسة تم جمع خمسين عينة من الافرازات المهبليه , وكانت تتراوح أعمار النساء بين 20- 45 سنة.

أظهرت هذه الدراسة البيانات الاتيه :

الافرازات المهبليه نتيجة لعوامل فسيولوجيه وجدت فى 39 عينة بينما الحالات المرضيه وجدت فى 11 عينة من مجموع العينات , وذلك تضمن 8 عينات من فطر المبيضات و 2 عينة من طفيل المشعره المهبليه وعينه واحده من التغيرات قبل سرطانيه .

وقد أوضحت هذه الدراسة أن الإفرازات البيضاء اللون وجدت فى 40 عينة، 35 عينة منها كانت إفرازات طبيعية. والصفراء اللون نتيجة لعوامل مرضية وجدت فى 6 عينات.

الإفرازات الطبيعية وغير نفاذة الرائحة وجدت فى 25 عينة، والنفاذة الرائحة نتيجة لحالات مرضية وجدت فى 7 عينات.

كما وقد اظهرت هذه الدراسة وجود تغيرات التهابية للخلايا في كل الحالات المصاحبة لفطر المبيضات وطفيل المشعرة المهبلية.

وعلى ضوء هذه الدراسة فإن تقييم النمط الخلوي للإفرازات المهبلية له دور فعال في تشخيص الحالات الالتهابية و قبل السرطانية و السرطانية للجهاز التناسلي للمرأة..

لذا نوصي باستخدام علم الخلايا في التشخيص المبكر للسرطان.

## LIST OF TABLES

### Page No.

**Table (1):** Description of study population by age

32

**Table (2):** Description of study subjects by the causes of

the discharge

34

**Table (3):** Description of study subjects by the odour and  
colour

of the discharge

38

**Table (4):** Description of study subjects by the age groups

and causes of the discharge

37

**Table (5):** Description of study subjects by colour and  
causes

of the discharge

39

**Table (6):** Description of study subjects by odour and  
causes of

the discharge

41

## **LIST OF FIGURES**

### **Page No.**

**Figure (1):** Description of study population by age

33

**Figure (2):** Description of study subjects by the causes  
of the discharge

35

**Figure (3):** Description of study subjects by the odour  
and colour of the discharge

37

**Figure (4):** Description of study subjects by colour  
and cause of discharge.

40

**Figure (5):** Description of study subjects by odour and  
causes

of the discharge

42

## CONTENTS

	Page
Dedication .....	
.....I	
Acknowledgement.....	
.....II	
Abstract in English .....	
.....III	
Abstract in Arabic.....	
.....V	
List of Tables.....	
.....VI	
List of Figures .....	
.....VII	

## CHAPTER ONE

Introduction .....	
.....1	
Objectives.....	
.....3	

## CHAPTER TWO

Review of Literature .....	
.....4	

2.1. Scientific background .....	4
2.2. Cytological appearance .....	6
2.3. Physical discharge .....	8
2.4 Types and causes of vaginal discharge .....	9
2.5. Infections and inflammation .....	11
2.6. Premalignant .....	19
2.6.1. Vaginal intraepithelial neoplasia .....	19
2.6.2. Carcinoma of the vagina .....	20
2.7. Cervicitis .....	20
2.7.1. Cervical intraepithelial neoplasia .....	21
2.7.2. Dyskaryosis .....	22
2.7.3. Invasive carcinoma of the cervix.....	23
2.7.4. Adenocarcinoma of the endocervix .....	23
2.8. Endometritis .....	23

2.8.1. Tumor of the endometrium	24
2.8.2. Endometrial adenocarcinoma	24
2.9. Cytological techniques	25

## **CHAPTER THREE**

Materials and methods	27
3.1. Study design	27
3.2. Study population	27
3.3. Sample collection	27
3.4. Sample processing	27
3.5. Results interpretation	28

## **CHAPTER FOUR**

Results	29
---------	----

## **CHAPTER FIVE**

Discussion	43
------------	----

Conclusion and Recommendations .....	
.....	47
References.....	
.....	48
Appendix	