

Vulvovaginitis Among Diabetic Female Children

Thesis

Submitted in Partial Fulfilment
For The master Degree in Pediatrics

By

Amr Fares Ali

M.B.B.Ch, 1990

Ain Shams University

Supervised By

Prof. Dr. Mona Abd El Kader Salem

Prof. of Pediatrics

Ain Shams University

Dr. Sahar Mohamed Ahmed Hassanein

Lecturer of Pediatrics

Ain Shams University

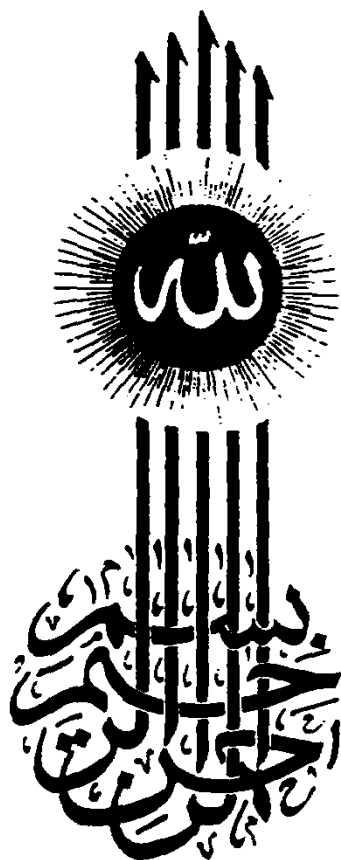
Dr. Eman Mohamed kamel Abou El-Fetouh

Lecturer of Clinical Pathology

Ain Shams University

Faculty of Medicine
Ain Shams University

1995



وقل رب زدني علماً



ACKNOWLEDGEMENT

First, I thank ALLAH for granting me power to accomplish this work.

I would like to express my endless gratitude and appereciation to prof. Dr. Mona Abd El Kader Salem, professor of pediatrics, Ain Shams University for her valuable guidance and supervision throughout the whole work.

I wish to express my deep appreciation to Dr. Sahar Mohamed Hasanein lecturer of pediatrics, Ain Shams University for her kind help throughout this study.

I wish to express my thanks to Dr. Eman Mohamed Kamel lecturer of clinical pathology, Ain Shams University for her continuous supervision throughout this research work.

I am also very greatful to Dr. Safanez Habashy lecturer of pediatrics, Ain Shams University for her valuable advise throughout this study.

I also want to record my deep feeling of gratitude to my mother for her help and sacrifice.

I would like to thank my wife who suffered a lot with me and help me too much during completion this work.

Last but not least I wish to thank the patients and their mothers for their Co-operation

CONTENTS

	Page
* List of Abbreviation	i
* List of tables & Figures	ii
* Introduction And Aim of the work	1
* Review of Literature	
* Diabetes Mellitus	3
* Aetiology of type I diabetes	16
* Clinical picture	27
* Dignosis of IDDM	29
* Vulvo - Vaginal Candidiasis	31
* Risk factors for vulvovaginitis	38
* Infection and diabetes	43
* Diabetes mellitus and vulvovaginitis	53
* Material and Methods	56
* Results	63
* Discussion	83
* Summary & Conclusions	93
* References	98
* Arabic Summary	

Abbreviation

- D.M	Diabetes Mellitus
- GDM	Gestational Diabetes Mellitus
- HbA _{1c}	Glycosylated hemoglobin
- IAA	Insulin Auto-Antibodies
- ICA	Islet Cell Autoantibodies
- IDDM	Insulin Dependent Diabetes Mellitus
- IGT	Impaired Glucose Tolerance
- MODY	Maturity Onset Diabetes of Young
- NDDG	National Diabetes Data Group
- NIDDM	Non Insulin Dependent Diabetes Mellitus
- OGTT	Oral Glucose Tolerance Test.
- Per. AGT	Pervious Abnormality of Glucose Tolerance
- Pot. AGT	Potential Abnormality of Glucose Tolerance.

List of Tables

	Page
Table (1) Difference between type Ia and Ib.	9
Table (2) Some featuers distinguishing between IDMM and NIDDM.	11
Table (3) Viruses implicated in pathogenesis of IDDM	27
Table (4) Glucose concentration in normal, impaired glucose tolerance and diabetes in children as classified according to values in venous plasma, venous whole blood, and capillary whole blood.	30
Table (5) Clinical and laboratory data of diabetic females with symptoms of vulvovaginitis (group I).	70
Table (6) Clinical and laboratory data of diabetic females without symptoms of vulvovaginitis (group II).	71
Table (7) Comparison between group I and group II as regards random blood glucose.	72
Table (8) Comparison between group I and group II as regards HbA _{1c}	72

	Page
Table (9) Relation between duration of diabetes and presence of dysuria in group I.	73
Table (10) Relation between duration of diabetes and presence of pruritis in group I.	73
Table (11) The relation between duration of diabetes and trichomonas infection in group I.	74
Table (12) Relation between duration of diabetes and candida infection in group I.	74
Table (13) Relation between different age groups and candida in group I.	75
Table (14) Relation between different age groups and presence of pruritis in group I.	75
Table (15) Relation between random blood glucose and presence of pruritis in group I.	76
Table (16) Relation between random blood glucose and candida infection in group I.	76

	Page
Table (17) Relation between random blood glucose and presence of trichomonas infection in group I.	77
Table (18) Relation between HbA _{1c} and presence of dysuria in group I.	77
Table (19) Relation between HbA _{1c} and presence of pruritis in group I.	78
Table (20) The Relation between HbA _{1c} and presence of candida infection.	78
Table (21) Relation between HbA _{1c} and Trichomonas infection in group I.	79

List of Figures

	Page
Figure I Comparison between the random blood glucose (mg/dl) in group [I] and group [II].	80
Figure II Comparison between HbA _{1c} in group I (symptomatic) and HbA _{1c} in group II (asymptomatic).	81
Figure III Percentage of candida infection, Bacterial infection and trichomonas infection among group I.	82

INTRODUCTION
AND
AIM OF THE WORK

INTRODUCTION AND AIM OF THE WORK

Glucose intolerance and diabetes may be caused by either inadequate insulin secretion or by impaired action of insulin on the tissues (Harold, 1984).

In 1980, the WHO expert committee on diabetes mellitus defined this disease as a state of chronic hyperglycemia (i.e. the state of having an excessive concentration of glucose in blood), Which may result from many environmental and genetic factors.

Diabetes is currently divided into 2 major forms, type (I) insulin dependent diabetes mellitus (IDDM) and type 2 Non insulin dependent diabetes mellitus (NIDDM). Most young persons who become diabetics are type I or IDDM.

In contrast, type 2 diabetes increases in prevalence with age (Fajans, 1978).

Insulin dependent diabetes mellitus (IDDM) is one of the most common serious diseases occurring in children and adolescents (Drash and Arslanian, 1990)

In Egypt, the prevalence of Insulin dependent diabetes mellitus among school children is 1,09 for 1000 (Salem et al., 1987)

Vulvovaginitis is in fact the commonest gynaecological disorder of childhood. It is commonly due to low virulence organisms rather than specific pathogenic organisms. *Candida albicans* plays a significant role in vulvovaginitis in diabetics or those on broad spectrum antibiotics (Forfar and Arneil, 1986).

The aim of the present work is to identify common pathogens causing vulvovaginitis in diabetic females and to study introital commensals of diabetics not complaining of symptoms of vulvovaginitis and to detect the effect of glycemic control on the frequency and cause of infection.

REVIEW OF LITERATURE

DIABETES MELLITUS

Definition:

Diabetes mellitus refers to a group of disorders that produces hyperglycemia as a prominent manifestation (Matthow, 1989). It is a heterogenous primary disorder of carbohydrate metabolism with multiple aetiological factors. All causes of this disorder ultimately lead to hyperglycemia (Olefsky, 1988). The state of chronic hyperglycemia is due to deficiency or diminished effectiveness of insulin (Welborn, 1984).

The various types which constitute this group of disorders differ in their clinical behaviour, their epidemiological features and their pathological findings and thus most likely have a different aetiological causes and pathogenesis (Fajan et al., 1978).

- Diabetes mellitus is not a disease in the classical sense, but it is more or less a syndrome. (Anderiani et al., 1984).
- Diabetes is frequently associated with permanent and irreversible functional and structural changes in the cells of the body particularly of the vascular system. These complications affect most characteristically the eye. The kidney and the nervous system are considered to be a major part in the diabetic syndrome (Baird et al., 1977).