

### 







شبكة المعلومـــات الجامعية التوثيق الالكتروني والميكروفيا.



#### جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بللله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد اعدت دون آية تغيرات



#### يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

40-20 في درجة حرارة من 15-20 منوية ورطوبة نسبية من

To be kept away from dust in dry cool place of 15 – 25c and relative humidity 20-40 %









B1-991

#### CLINICAL AND HISTOPATHOLOGICAL SKIN CHANGES IN CHRONIC RENAL FAILURE PATIENTS ON HEMODIALYSIS

#### **THESIS**

Submitted in Partial Fulfillment of The Master Degree in Dermatology, STDs & Andrology

By

Iman Nagy Abd El-Hafez (M.B., B.Ch.) Faculty of Medicine al-Minya University

Supervised By

Prof. Dr. MOETAZ BELLAH MOSTAFA EL-DOMYATI

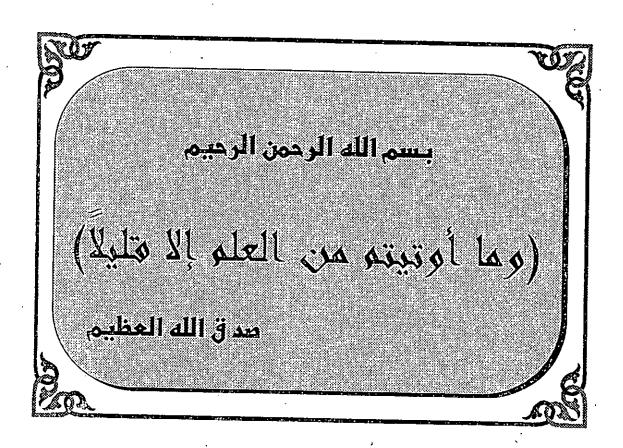
Professor of Dermatology, STDs & Andrology Faculty of Medicine al-Minya University

#### Dr. ALI MOHAMED ABD EL-GHANY ZAHRAN

Assistant Professor of Internal Medicine Faculty of Medicine al-Minya University

#### Dr. SAMEH MOHAMED KAMAL ATTIA

Lecturer of Dermatology, STDs & Andrology Faculty of Medicine al-Minya University



# TO THE BEST PARENTS TO THE KINDEST HUSBAND

#### **CONTENTS**

	Page
-Acknowledgment	
-Introduction and aim of work	· 1
-Review of Literature	4
- Kidney and Renal Failure	4
- Classification	20
- Pruritus (Itching)	24
- Xerosis	30
- Skin Pigmentation	31
- Vascular Changes	33
- Nail Changes	34
- Infections	35
- Acquired Perforating Dermatosis	37
-Skin calcifications	42
-Cutaneous deposition of calcium oxalate	
(Cutaneous oxalosis).	53
- Kaposi's and PseudoKaposi's sarcoma	55
- Porphyria cutanea tarda and Porphyria cutanea	
tarda- like lesions	61
- Amyloidosis	68

	Page
-Patients and Methods	73
-Results .	76
-Discussion	148
-Summary	166
-References	170
-Arabic Summary	

#### **Acknowledgment**

It is of great honor to express my deep gratitude and appreciation to *Prof. Dr. Moetaz Bellah Mostafa El-Domyati*, Professor of Dermatology, STDs & Andrology, Faculty of Medicine, al-Minya University, for his encouragement, creative suggestions and whole hearted support, both scientific and moral and his guidance throughout the entire study.

I would like to express my best thanks and gratitude to *Dr. Ali Mohamed Abd El-Ghany Zahran*, Assistant Professor of Internal Medicine, Faculty of Medicine, al-Minya University, for his sincere help, kindness, and constructive directions.

I would like to express my deepest and sincere indebtedness and gratitude to *Dr. Sameh Mohamed Kamal Attia*, Lecturer of Dermatology, STDs & Andrology, Faculty of Medicine, al-Minya University, for his overwhelming kindness and continuous help throughout the study. He spared no effort in directing me throughout the work. I owe him a lot.

I would also like to express my deepest thanks and gratitude to *Dr. Ahmed Mohamed Abdel-Nasser*, Lecturer of Rheumatology & Rehabilitation, Faculty of Medicine, al-Minya University, for his great help in the statistics of the study and for giving me much of his time and knowledge.

My deepest appreciation to all members of the dermatology, STDs & Andrology, Faculty of Medicine, al-Minya University, for providing unfailing help all through my work.

I would also like to express my deepest appreciation to all members of the Renal Dialysis Unit of al-Minya University Hospital, for providing unfailing help all through my work.

## INTRODUCTION AND AIM OF WORK

#### Introduction

Recent advances in medicine have permitted earlier diagnosis and treatment of patients with chronic renal failure, improving the quality of life and prolonging the life expectancy of these patients (Ben Hmida et al., 1996). Despite widespread interest in the skin as a marker for systemic disease, little effort has been made to correlate histological findings in the skin of uremic patients to the progress or prognosis of extracutaneous disease, although such relationships are considered in some diseases, for example, systemic lupus erythematosus (Noel et al., 1978).

The associations of xerosis (Morton et al., 1996), hyperpigmentation (Deleixhe-Mauhin et al., 1992), easy bruisability, hypohydrosis (Yosipovitch et al., 1995), and pruritus (Hiroshige et al., 1995) with renal failure have been noted, but there have been few reports of the prevalence and pathogenesis of these conditions.

Kidney is the organ which has many functions in the form of maintenance of the body fluid composition, excretion of metabolic end products and foreign substances, and production and secretion of certain enzymes and hormones e.g. erythropoietin, renin, and 1,25 dihydroxycholecalciferol (Tisher, 1996).

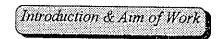
Renal failure is a syndrome characterized by variable and inconstant biochemical and clinical changes that result from a decrease

in glomerular filtration, a decrease in tubular reabsorption and secretion, and impairment of detoxifying mechanisms (Merril and Hamper, 1970).

Chronic renal failure is a functional diagnosis characterized by a progressive and generally irreversible decline in the glomerular filtration rate. It is caused by a large number of diseases. Diabetes and hypertension are now recognized as leading causes in United States (Warnock, 1996).

The uremic syndrome consists of symptoms and signs that result from a toxic effect of elevated levels of nitrogenous or other wastes in the blood. Because nowadays dialysis is becoming more common place, terminally uremic patients are living longer with an improving quality of life (Ben Hmida et al., 1996). Some types of skin lesions are non-specific as generalized pruritus, xerosis and diffuse hyperpigmentation. Other seems to be more characteristic, including pseudoporphyria cutanea tarda, half-and-half nails, Kyrle's disease and dermatitis in the area of arterio-venous fistula (Pico et al., 1992).

Newer alterations in the skin characteristics of long-term chronic renal failure have been described, and dermatologic conditions such as uremic frost, erythema papulatum uremicum, uremic roseola, and uremic erysipeloid are rarely, if ever seen. It has been estimated that approximately 50 % of patients with chronic renal failure will show some cutaneous alteration (*Pico et al.*, 1992).



Hemodialysis is required for three general situations; acute renal failure, poisoning and end stage renal disease. Successful hemodialysis in any of these settings requires access to large blood vessels capable of supporting rapid extracorporeal blood flow. In end stage renal disease, reliable long-term access to the circulation is essential for adequate dialysis therapy. Long-term access to the circulation is best accomplished by the construction of endogenous or synthetic arteriovenous fistulas (Berkoben and Schwab, 1995).

The aim of the present work is to study the clinical skin changes of chronic renal failure patients on hemodialysis and the histopathological findings of biopsies taken from skin lesions. The present study was also undertaken in order to correlate duration and severity of renal failure with clinical and histopathological skin changes, and to evaluate the prevalence of dermatologic problems among patients undergoing hemodialysis.