بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

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

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

"STUDY OF SOME HEAVY METALS AND THEIR RELATION TO RENAL DISEASES"

Thesis

Submitted for Partial Fulfilment for the M. D. Degree
In
Internal Medicine

By

Gamal Fathy Mohamad EL-Naggar
M.B., Ch. B.; M. Sc., (Internal Medicine)

Under Supervision of

Prof. Dr.
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Prof.Dr.
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بسم الله الرحمن الرحيم
﴿ .. سُبْحَانَكَ لا عِلْمَ لَنَا
إِلاَّ مَـا عَلَّمْـتَنَا إِنَّكَ أَنتَ
الْـعَلِـيـمُ الْـحَـكِـيـمُ ﴾
صدق الله العظيم
البقرة (٣٢)

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INTRODUCTION & AIM OF THE WORK

Introduction and Aim of the work

Introduction

Kidney disease arising from exposure to heavy metals plays a special role in nephrology because of the possibility of its prevention [1].

Environmental medicine, the clinical arm of environmental health, involves the diagnosis and prevention of illness caused or influenced by external agents in a person's environment. Once an environmental disease has occurred, its treatment is often within the domain of Internal Medicine, but its recognition and prevention is the essence of environmental medical practice [2].

The extent of the contribution of environment in causing renal disease is unknown. This is largely due to the fact that multiple factors could be working together:- difficulty in confirming and quantifying the environmental exposure, and the lack of specific clinical or pathological presentation. In the USA 19 percent of patients with end stage renal failure have diseases of unknown cause and in 30 percent of those presenting with glomerulonephritis the etiology is unrecognized [3].

Dipernk [4], Argued that up to 5o % of cases of end stage renal failure may be induced by toxic agents since they are diagnosed as chronic renal failure of unknown etiology, glomerulonephritis and unspecified interstitial nephritis, the prevalence of toxin induced renal failure may thus be under estimated.

People always have been exposed to heavy metal in the environment due to the burning of fossil fuels containing heavy metals, the addition of

tetraethyl lead to gasoline, and the increase in industrial source of heavy metal poisoning [5].

The kidney is more prone to environmental toxins for the following reasons:- The kidneys receive about 20 percent of the cardiac output and possess a high ratio of blood flow to tissue mass, a high rate of oxygen consumption, a large endothelial surface area, a medullary counter current multiplication system leading to more accumulation in the renal medulla of toxic agents and their metabolites, and a high capacity to transport and metabolize various substances [6,7].

Lead nephrotoxicity occurs in two forms; a reversible renal tubular disorder (usually seen after acute exposure of children to lead) and irreversible interstitial nephropathy (more commonly observed in long term lead exposure) [8].

Arsenic and arsine gas poisoning may cause acute renal failure, probably in association with massive hemolysis and circulatory collapse [9].

Exposure to mercury vapor or salts can result in dose dependent proteinurea or nephrotic syndrome, acute tubular necrosis and renal failure, dysuria and decreased creatinine clearance [10].

The prevalence of occupational and environmental nephrotoxicity is underestimated due to insensitivity of routine renal function tests [11].

The recognition of the etiology is of no importance except in few situations once renal disease progressed to advanced stages.

So the aim of the present study is to evaluate the patients with apparent renal diseases for possible environmental nephrotoxic agents (lead, arsenic and mercury) as an etiological nephrotoxic factor before progression to advanced renal disease [12].

REVIEW OF LITERATURE