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شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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بالرسالة صفحات لم ترد بالأصل



STUDY OF SILICONS AND CADMIUM LEVELS AND THEIR CLINICAL EFFECTS IN HEMODIALYSIS PATIENTS

Thesis

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INTRODUCTION

With regard to chronic renal failure a multitude of clinicopathological entities are described but the origin of the majority remains unknown(1). Next to drug-induced renal disease (e.g., analgesic nephropathy), occupational exposure has been described as potential aetiological factor. Heavy metals such as lead and hydrocarbons are the best documented (2). Silica and cadmium exposure has also been associated with nephritis and end-stage renal disease(3).

Although all the epidemiological data suggest an association between silica and renal disease, the pathophysiological mechanisms underlying this association have not yet been elucidated. At least two mechanisms may be operative. First, silica may exert a direct toxic effect on the kidneys (4). Secondly, silica, having been ingested by macrophages, may induce granulomatous inflammation. It has been suggested that recurrent stimuli of such "adjuvants" to the immune system may evoke autoimmune with a clinical picture simulating Wegner's granulomatosis(5).

Cadmium is a toxic metal with extremely long biological half-time of 15-20 years in humans. It has for decades been known that cadmium exposure can cause a variety of adverse health effects, among which kidney dysfunction, lung diseases, disturbed calcium metabolism and bone effects are most prominent(6).

AIM OF THE WORK

Aim of the work is to assess the possible exposure of hemodialysis patients to silica and cadmium and their possible clinical effects.

SUBJECTS AND METHODS

40 patients under regular hemodialysis will be randomly selected from Ain Shams Dialysis Units as well as 40 healthy control with similar social class and residency and 40 patients with chronic renal failures on conservative treatment

All the cases and control will be subjected to the:

- 1- Full personal history, including occupational history and detailed clinical examination.
- 2- Blood urea and serum creatinine, calcium, phosphorus, alkaline phosphatase, total protein and serum albumin and urine analysis (when possible).
- 3- X-rays of chest and nasal sinuses as well as spine and hands.
- 4- Serum silicone and cadmium level.
- 5- Antineutrophil cytoplasmic antibodies (ANCA) when needed.
- 6- Bone biopsy when needed.

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Abbreviations

ANCA	Antineutrophil cytoplasmic antiobodies.
A.T. P ase	Adenosine triphasphatase
A.R.F.	Acute renal fialure
C.A.P.D	Chronic ambulatory peritoneal dialysis
Cd.	Cadmium
Cdo	Cadmium oxide
Cd (Co3)₂	Cadmium carbonate
CdMt	Cadmium metallo thionein complex
C.R.F	Chornic renal fialure
G.M.B	Glomerular basement membrane
G.F.R.	Glomerular filtration rate.
G.S.H. PX	Glutathione peroxidase
E.S.R.D.	End stage renal disease
H.B	Haemoglobin
H. D	Heamodialysis
L.D.H	Low density lipoprotein
L.O.N.E.L	Lowest - observed - adverse effects level
P.A.M	Pulmoney alvealor macrophage
P.T.W.I	Provisional tolerable weekly in take
Mt	Metallothionein
R.B.F.	Renal blood flow.
R.O	Reverse osmosis
Se	Selenium.
V	Vanadium.

