

بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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Prevalence of Parasitic Infections and Related Morbidity in Pediatric Patients on Regular Hemodialysis

Thesis

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in Pediatrics*

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List of Abbreviations

Abb.	Full Term
AGEs	Advanced Glycation Endproducts
APCs	Antigen-Presenting Cells
CAKUT	Congenital Abnormalities of Kidney and Urinary Tract
CKD	Chronic Kidney Disease
ELISA	Enzyme-Linked Immunosorbent Assay
ESRD	End stage Renal Disease
HD	Hemodialysis
IPs	Intestinal Parasites
KDIGO	Kidney Disease Improving Global Outcomes
LDL	Low Density Lipoprotein
MHC	Major Histocompatibility Complex
NF-κB	Nuclear Factor κ B
PAMP	Pathogen-Associated Molecular Patterns
PDU	Pediatric Hemodialysis Unit
PEW	Protein-Energy Wasting
ROS	Reactive Oxygen Species
SRNS	Steroid-Resistant Nephrotic Syndrome
TNF	Tumour Necrosis Factor

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Introduction

End-stage renal disease (ESRD) is an immunosuppressive condition that makes patients more prone to infections, including those caused by opportunistic protozoan parasites. Patients undergoing hemodialysis (HD) suffer from humoral and cell-mediated immune defects and have disturbances in acquired immune response to a variety of antigens (*Shehata et al., 2019*).

Other factors contributing to changes in the immune response of these patients against infectious agents include malnutrition and vitamin deficiencies resulting either from inadequate intake or from losses during dialysis procedures. Also, blood exposure to artificial membranes during hemodialysis leads to chronic production of inflammatory cytokines. This important event in its turn creates the state of activation of monocytes and the complement cascade leading to altered immune response, changes in the coagulation cascade, frequent and repeated episodes of peri-dialysis hypotension, with the activation of leukocytes, lymphocytes, and nitric oxide, platelet dysfunction and anemia causing specific immunological changes (*Sela et al., 2005*).

Opportunistic parasitic infections, including those with *Cryptosporidium* species, *Cystoisospora belli*, *Cyclospora cayetanensis*, *Blastocystis hominis*,

Toxoplasma gondii and *microsporidia*, have been documented to cause serious complications or even death among immunocompromised patients, including those undergoing HD (***Mohammadi-Manesh et al., 2014***).

The investigation of parasitic infections in these patients, followed by any necessary treatment if tested positive, can therefore play an important role in the process of restoring better quality of life for these patients (***Jager et al., 2009***).

Aim of the Work

The aim of this work was to study the prevalence of common parasitic infections among the hemodialysis pediatric patients at Ain Shams University Pediatric Hemodialysis Unit (PDU).