hossam maghraby

شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

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التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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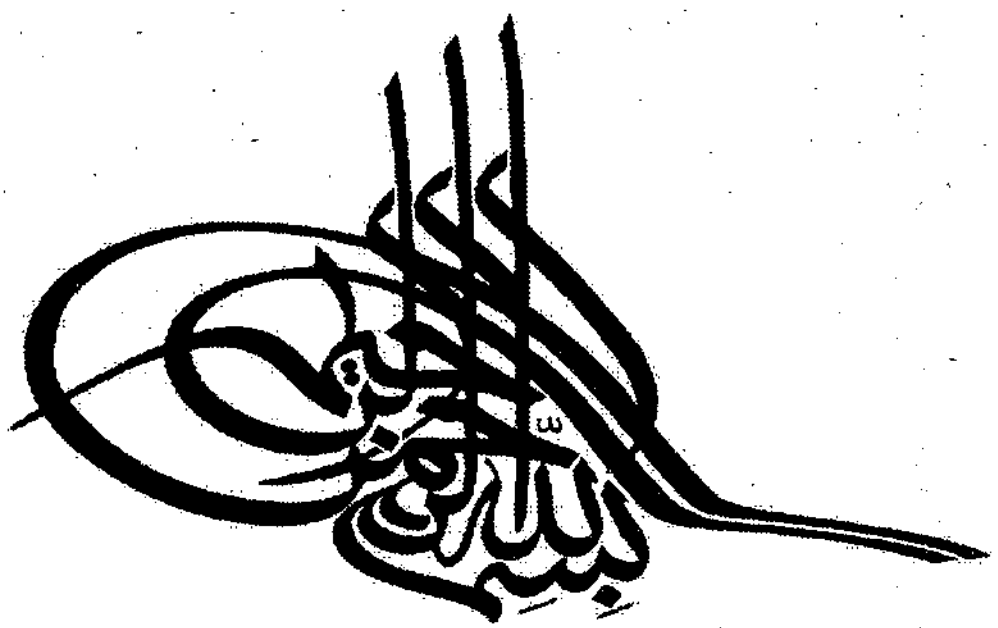

STUDY OF HEAT SHOK PROTEIN 32 (HSP – 32) IN POST RENAL TRANSPLANT PATIENTS: CORRELATION TO RENAL HAEMODYNAMICS, GRAFT FUNCTION AND SURVIVAL.

Thesis

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To my parents
Who gave me a lot of support

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List of Abbreviation

AAs	Amino Acids.
APC	Antigen Presenting Cells.
ARE	Antioxidant Responsive Element.
ATN	Acute Tubular Necrosis.
CAN	Chronic Allograft Nephropathy.
cGMP	cyclic Guanosine Monophosphate.
CMV	Cytomegalovirus.
CO	Carbon monoxide.
COHb	Carboxyhemoglobin.
CSA	Cyclosporine A.
EMIT	Enzyme multiplied Immunoassay Technique.
ESRD	End Stage Renal Disease.
Fe^{++}	Free Iron.
FPIA	Fluorescence Polarization Immunoassay.
GRE	Glucocorticoid Response Elements.
HLA	Human Leukocyte Antigen.
HO	Heme Oxygenase.
HPLC	High Performance Liquid Chromatography.
HSB-1	Heat Shock Binding Protein-1.
HSF	Heat Shock Factors.
HSP	Heat Shock Protein.
H_2O_2	Hydrogen Peroxide.
ICAM	Intercellular Adhesion Molecule.

IFN-γ	Interferon Gamma.
IL	Interleukin.
iNOS	inducible Nitric Oxide Synthase.
IR/I	Ischemia Reperfusion Injury.
MAbs	Monoclonal Antibodies.
MARE	Maf Recognition Element protein.
MHC	Major Histocompatibility Complex.
MMF	Mycophynolate Mofetil
NF-AT	Nuclear Factor of Activated T-cell.
NO	Nitric Oxide.
NOS	Nitric Oxide Synthase.
PCR	Polymerase Chain Reaction.
PG-E2	Prostaglandin E2.
PI	Pulsatility Index.
PKC	Protein Kinase-C.
RI	Resistive Index.
ROS	Reactive Oxygen Species.
RRT	Renal Replacement Therapy.
SMC	Smooth Muscle Cell.
SRL	Sirolmus.
TCR	T-Cell Receptor.
TGF-B	Transforming Growth Factor Beta.
TNF-α	Tumor Necrosis Factor Alpha.
TOR	Target Of Rapamycin.

INTRODUCTION

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RENAL TRANSPLANTATION

Chronic renal failure is a progressive persistent decline in renal function that the kidney can no more maintain the consistence of the internal medium this accompanied by the retention of end products of proteins (eg: urèa, creatinine, uric acid), disturbance of electrolytes and acid base balance, anemia and hypertension. These patients need renal replacement therapy in the form of hemodialysis, peritoneal dialysis or renal transplantation. [1]

Despite tremendous increase in knowledge and skill in the management of end stage renal disease (ESRD) patients, such individuals, particularly those treated by dialysis, remain unwell. Impaired quality of life, dependence on others, poor rehabilitation, and depressed sexual function all contribute to the physical and emotional disabilities that may persist even in well dialysed ESRD patients. [2]

Renal replacement therapy (RRT) describe various substitution treatment available for severe acute renal failure and ESRD patients, it includes dialysis (hemodialysis and peritoneal dialysis) and renal transplantation. [3]

The improvement in immunosuppression along with better treatment and prophylaxis for infectious complications, have made, renal transplantation became the preferred mode of RRT for all patients with ESRD, unless they have systemic malignancy, chronic infection, severe cardiovascular diseases or neuropsychiatric disorders. [3]

The advantages of renal transplantation are clearly established as it prolongs the survival of the recipients, improve quality of life, so, they can

enjoy unrestricted activities and can return to their previous full term employment. [4]

Efforts were mainly directed toward reducing fatality and morbidity after renal transplantation, patients mortality tend to be highest during the first year after operation, infection was the cause of death of 50 % of patients. The second major cause of death during the first year post transplant is cardiovascular complications especially in elderly and diabetic patients. Also in spite of increasing success of renal transplantation, rejection of the transplanted kidney by the recipient still remains the major problem to be overcome. [5]

Transplantation Immunobiology

Major Histocompatibility Complexes:

Genes encode histocompatibility antigens, (cell surface proteins), are referred to as histocompatibility genes. There are more than 30 of such genes. The histocompatibility antigens are responsible for the graft's being recognized as similar to one's own tissues or as foreign. They are classified according to their relative potencies as either major or minor. The group of histocompatibility genes that have a central role in antigen recognition and transplantation immunobiology, this group of genes had been defined as the major histocompatibility complex (MHC). [6]

The MHC is a complex of genes found in humans and they are located on chromosome number 6. They encode polymorphic cell surface molecules, alloantigens known as human leukocyte antigen (HLA). The term of HLA is used as a synonym for the human MHC proteins. The HLA molecules are involved in the presentation of antigen to T-Cells and are