Association between Serum Complement Anaphylatoxin C5a and Thrombotic Events in Patients Receiving Maintenance Hemodialysis

Thesis
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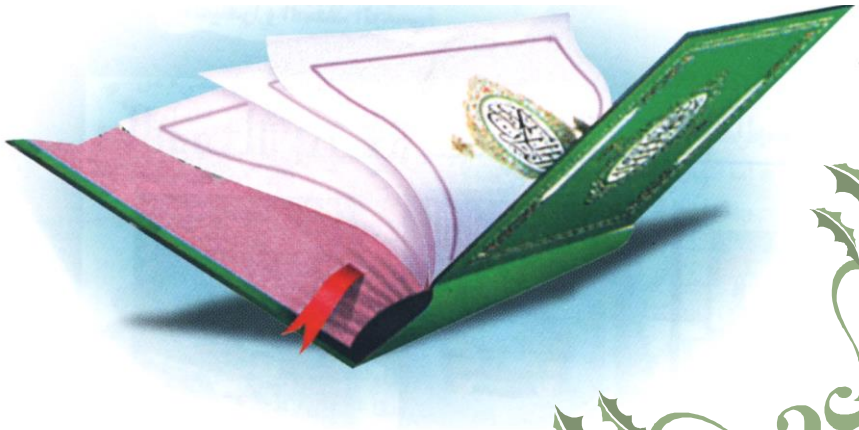
بسم الله الرحمن الرحيم

" رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ "

صدق الله العظيم

النمل الآية {١٩}



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List of Abbreviations

Abb.	Meaning
AE	Adverse events
AF	A trial fibrillation
ANCA	Antineutrophil cytoplasmic antibodies
AP	Alternative pathway
APS	Anti phospholipid syndrom
ARDS	Acute (adult) respiratory syndrome
AVF	Arterio venous fistula
BCR	B cell antigen receptor
C5aR	Complement 5a receptor
CAD	Coronary artery disease
CAMP	Cyclical adenosine monophosphate
CBC	Complete blood count
CD	Cluster Of Differentiation
CKD	Chronic kidney disease
Cp	Classical pathway
CRP	C- reactive protein
CVC	Central venous catheter
CXR	Chest X-ray
D.M	Diabetes mellitus
DAMPs	Damage -associated molecular patterns
DIC	Disseminated intravascular coagulopathy
DVT	Deep venous thrombosis
ECG	Electro-cardiograph
EDTA	Ethylene diamine tetraacetic acid
ELISA	Enzyme linked immunosorbent assay
EPO	Recombinant erythropoietin
ESAs	Erythropoieses stimulating agents
ESKD	End stage kidney disease

Abb.	Meaning
ESR	Erythrocyte sedimentation rate
ESRD	End stage renal disease
FCA	Functional complement activity
FDCs	Follicular dendritic cells
FMF	Familial mediterian fever
FSAP	Factor seven activating protease
GC B cells	Germinal center B cell
G-CSF	Granulocyte colony stimulating factor
HCV	Hepatitis C virus
HD	Hemodialysis
HTN	Hypertension
HUS	Haemolytic uremic syndrome
IgG	Immunoglobulin G
IGM	Immunoglobulin M
IJV	Internal jagular vein
IL-6	Inter leukin-6
IRS	Inflammatory response syndrome
KDa	Kilo dalton
LT	leukotriene
MAC	Membrane attach complex
MASP	MBL- associated serine proteases
MBL	Mannose-binding lectin
OXLDL	Oxidized low density lipoprotein
PAMPs	Pathogen associated molecular pattern
PBS	Phosphate buffer solution
PE	Pulmonary embolism
PNH	Paroxysmal nocturnal hemoglobinuria
S.ALB	Serum albumin
SIRS	Systemic inflammatory response syndrome

Abb.	Meaning
TCC	Terminal complex
TE	Thioester
TF	Tissue factor
TLC	Total leucocytic count
TLRs	Toll like receptors
TMB	Tetramethyl benzidine
TNF	Tumor necrotic factor
U/S	Ultrasound
VA	Vascular access
VAT	Veno arterial thrombosis
VTE	Venous thrombo embolism

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Association between Serum Complement Anaphylatoxin C5a and Thrombotic Events in Patients Receiving Maintenance Hemodialysis

Abstract

Background: End-stage renal disease (ESRD) is caused by several primary kidney and systemic disorders, which is manifested as renal failure. Thrombotic disorders are the most common complication in hemodialyzed ESRD patients is thrombosis of vascular access, which is a major cause of hemodialysis-associated morbidity. **Aim:** To find the association between complement components (C5a) and thrombosis in hemodialysis patients. **Subjects:** This study include (50) HD patients from hemodialysis unit in El Zaitoun specialized hospital. All patients receive hemodialysis sessions three times per week for four hours with bicarbonate solution & polysulfone dialysis membrane. The patient will be divided into two groups: Group I: include 25 HD patients with thrombotic events e.g AVF thrombosis, DVT. Group II: include 25 HD patients without any thrombotic events (control group). **Results:** The most prevalent etiology of ESRD in patients was HTN nephropathy (30%), unknown (30%) and obstructive uropathy 20%. The least prevalent etiology in patients was pyelonephritis, drug Toxicity, eclampsia, F.M.F and heavy metals toxicity, each represented 2%, while diabetic nephropathy was the cause for ESRD in 8% of patients and congenital anomaly 4%. All laboratory results have insignificant statistical difference between mean serum levels of urea, creatinine, and albumin, ESR, CRP and CBC in both groups (Pvalue□0.05).

Keywords: ESRD: End-stage renal disease, HD: hymodialysis, HTN: hypertension, DVT: Deep venous thrombosis.

Introduction

Aim of the Work

Chapter (1)
Thrombotic Events in Hemodialysis Patients

Chapter (2)
Complement Activity in Hemodialysis

Chapter (3)
Complement and Thrombosis