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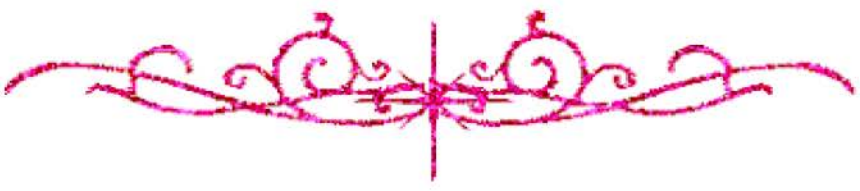

Study of Procalcitonin Level in Obese Prevalent Hemodialysis Patients and Its Relation to Hemodialysis Adequacy

Thesis

Submitted for Partial Fulfillment of Master Degree
In Internal Medicine

By

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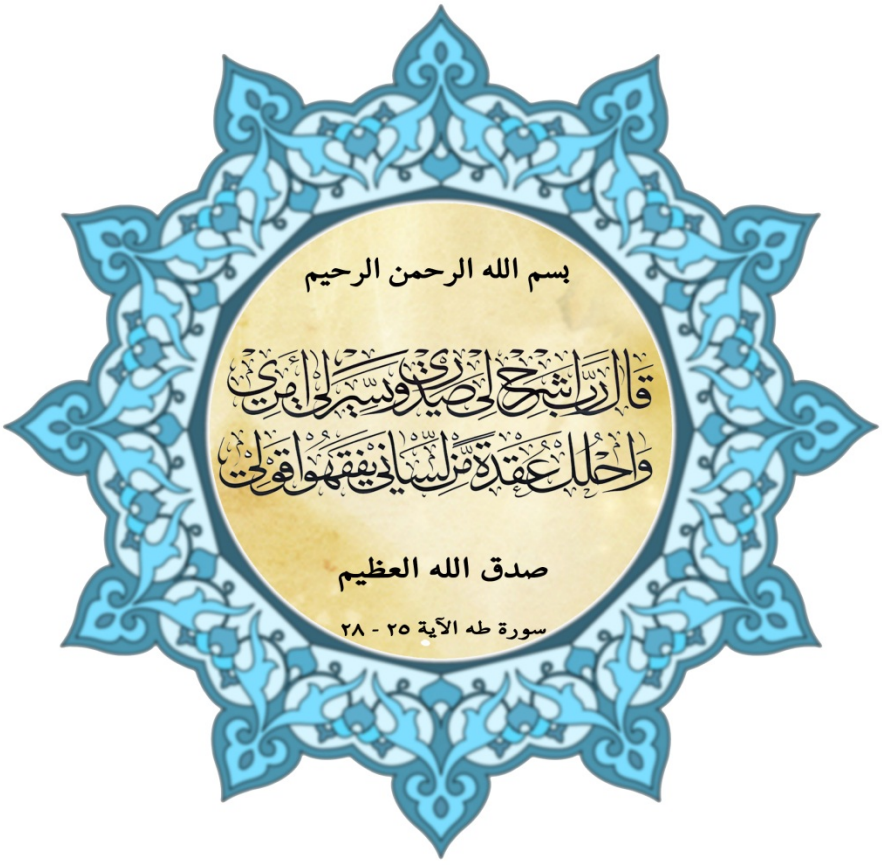
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Mahmoud El-Wakeel

Abstract

Introduction: In hemodialysis (HD) patients procalcitonin considered as an early predictor of acute infection. It represents a new and potential marker of inflammation and may correlate with dialysis adequacy. This makes procalcitonin a potential biomarker for obesity-related low-grade inflammation.

Objective: To assess procalcitonin level in obese prevalent hemodialysis patients and its relation to hemodialysis adequacy

Methods: A cross sectional study was conducted on 90 patients divided into 3 groups, 40 obese (BMI ≥ 30 Kg/m2) ESRD patients on regular hemodialysis at dialysis unit of El-Sahel Teaching Hospital (**group A**), 40 non obese (BMI < 25 Kg/m2) ESRD patients on regular hemodialysis (**group B**) and 10 healthy individuals with BMI < 25 Kg/m2 as a control group (**group C**).All patients were subjected to detailed history taking and general examination. All patients were laboratory investigated for CBC, serum urea, creatinine, CRP, Urea reduction ratio (URR), equilibrated Kt/v. All controls were subjected to written informed consent, full history and examination and CRP level. Procalcitonin level was done by ELISA technique for all patients and control.

Results: In our study, we found that there was a higher level of procalcitonin (PCT) in obese hemodialysis patient than non-obese. We also found that there was no correlation between PCT and hemodialysis adequacy in our study population.

Conclusion: Our study showed that procalcitonin is a potential biomarker for obesity-related low-grade inflammation. But not related to hemodialysis adequacy.

Keywords: Hemodialysis,procalcitonin,obesity.

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List of Abbreviations

Abb.	Full term
AVF	Arterio-venous fistula
BMI	Body Mass Index
BP	Blood Pressure
CALC-1	Calcitonin-l gene
CAPD	Continuous Ambulatory Peritoneal Dialysis
CDC	Centers for Disease Control and Prevention
CKD	Chronic Kidney Disease
CRP	C - reactive protein
CVD	Cardio Vascular Disease
DBP	Diastolic Blood Pressure
DD	Differential Diagnosis
ELISA	Enzyme Linked Immuno Sorbent Assay
ESRD	End-Stage Renal disease
FDA	Federal Drug Association
GLP	Glucagon-like peptide-1
HB	Hemoglobin
HCT	Hematocrit
HD	Hemodialysis
Kda	Kilo Dalton
MHD	Maintenance Hemodialysis
MHO	Metabolically Healthy Obesity
MS	Metabolic syndrome
NAFLD	Non-Alcoholic Fatty Liver Disease
NASH	Non-Alcoholic Steato-Hepatitis

List of Abbreviations (Continued)

Abb.	Full term
OA	Osteoarthritis
OSA	Obstructive Sleep Apnea
PCT	Procalcitonin
PLT	Platelets
PTH	Parathormone Hormone
RAAS	Renin-angiotensin-aldosterone system
RBCS	Red Blood Cells
RRT	Renal Replacement Therapy
SBP	Systolic Blood Pressure
SD	Standard Deviation
SDB	Sleep disordered breathing
SMMI	Skeletal Muscle Mass Index
SNS	Sympathetic nervous system
SO	Sarcopenic obesity
T2 DM	Type 2 Diabetes Mellitus
TNF	Tumor necrosis factor
URR	Urea Reduction Ratio
WBCS	White Blood Cells
WC	Waist Circumference
WHR	Waist- Hip Ratio

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