Adrenomedullin Level in Systemic Lupus Erythematosus Patients with and without Nephritis

Thesis

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List of Abbreviations

ACE ..... Angeotensin converting enzyme

ACLE..... Acute cutaneous lupus erythematosus

ACR ..... American college of rheumatology

ACTH ..... Adrenocorticotrophic, hormone

AM ..... Adrenomedullin

ANA ..... Antinuclear antibody

ANCA ..... Anti-neutrophil cytoplasmic antibody

ANP .....A-Type natriuretic peptide

Anti-dSDNA. Anti-double strand DNA

Anti-Sm .....Anti-smith antibody

Anti-SSA .....Anti-sjogren syndrome A

Anti-SSB.....Anti-sjogren syndrome B

APRIL ..... Aproliferation inducing ligand

APS ..... Antigen presenting cell

AS..... Ankylosing spondylitis

AUC ..... Area under the curve

BAFF .....B-cell activating factor

BILAG..... British isle lupus assessment group

BLYS .....B lymphocyyte stimulator

C ..... Complement

CAAT ..... Cytosine, Adenine/ Adenine/ Thymine

cAMP..... Cyclic adenosine monophosphate

CBC ..... Complete blood count

CCL5 ..... Chemokine

CCLE.....chronic cutaneous lupus erythematosus

CD..... Cluster of diffrentiation

CGRP ..... Calcitonin gene-related peptide

CKD..... Chronic kidney disease

CNS..... Central nervous system

CRLR ..... Calcitonin receptor like receptor

CTLA-4 ..... Cytotoxin T-lymphocyte associated protein

CVS..... Cardiovascular system

DC..... Dentric cell

DL ..... Disocoid lupus

DNA..... Deoxy nucleic acid

E ..... Endothelin

ELISA..... Enzyme linked immunosorbent assay

EM ..... Electron microscope

EPZ..... Epratuzumab

ESRD ..... End stage renal disease

FAD ..... Food drug administration

FC ..... Frgment constant

G..... Global

GC Box..... Distinct pattern of nucleotide has sequence of GGGGG

GFR ..... Glomerular filtration rate

GMB ..... Glomeruler Basement membrane

HLA ..... Human leucocyte antigen

HPF..... High power field

HRP ..... Horse radish peroxidase

IC ..... Immunocomplex

IFN..... Interferon

Ig ..... Immunoglobulin

IL ..... Interleukin

IL-1RA ..... Interleukin-1 receptor antagonist

IP..... Inosin monophosphate

ISN..... International Society of nephrology

L ..... Litre

LM ..... Light microscope

LN ..... Lupus nephritis

M..... Mesangial

mAb ..... Monoclonal antibodies

MCP1..... Monocyte chemo attractant protein-1

MHO..... Major histocompatibility complex

MIF ..... Migration inhibiting factor

MM ..... Mesangial-matrix

MMF..... Mycophenolate mofotil

mRNA..... Massenger RNA

NF-κB ..... Nuclear factor-kappa B

NGAL ..... Neutrophil-gelatinase associated lipocalin

NO..... Nitric-oxide

NPSLE..... Neuro psychiatric systemic lupus erythematosus

NPV ..... Negative predictive value

OD..... Optical density

PAS ..... Periodic acid schiff

PBMC ..... Peripheral blood mononuclear cell

PDGP..... Platelet derived growth factor

PKA ..... Protein kinase

PO ..... Podo cyte

PPV..... Positive predictive value

RA..... Rheumotoid arthritis

RAAS..... Renin angeotensin aldosteron system

RAMP..... Receptor activity modifying protein

RBC ..... Red blood cell

RNA..... Ribonucleic acid

RNP ..... Ribonucleoprotein

ROC..... Receiver operating curve

ROM..... Reactive oxygen metabolite

RPS ..... Renal pathology society

RTX ..... Rituximab

S ..... Segmental

SD..... Standard Deviation

Sens..... Senstivity

SLE ..... Systemic lupus erythematosus

SLEDAI..... Systemic lupus erythematosues diseas activity index

SLICC ..... Systemic lupus international collaborating clinics

SMIP ..... Small Modular Immuno Pharmaceutical

Spe. ..... Specificity

TACI..... Transmembrane activator and calcium modulating ligand interactor

TATA..... Thymine/adnine/ Thymine, Adenine.

TGF ..... Tumor growth factor

TH.....T helper

TMB..... Tetramethyl benzidine

TNF..... Tumor necrosis factor

WBC ..... White blood cell

WHO ..... World health organization

XO..... Turner syndrome

XXY ..... Klinervilleter syndrome

INTRODUCTION

Systemic Lupus Erythematosus (SLE) is an autoimmune, multi-systemic disease that is characterized by the production of antibodies against nuclear antigens. The pathogenesis includes genetic, environmental, and hormonal factors. A broad array of clinical manifestations ranging from mucocutaneous manifestations and arthritis to severe organ- and life-threatening disease are observed in SLE patients ***(Postal et al., 2012).***

Lupus nephritis (LN) is one of the most severe forms of organ involvement in SLE and occurs in at least 50% of SLE patients. Current evidence suggests that dysregulated expression of cytokines plays a crucial role in the immuno-pathogenesis of SLE. Previous studies showed a predominantly type 1 T-helper cell (Thl) activation in patients with active LN ***(Szeto et al., 2012).***

SLE, because of its complex and multi-systemic presentation, lacks a reliable and sensitive gold standard for measuring disease activity. Several disease activity indices have been developed over the years ***(Luijten et al., 2012).***

A number of biochemical markers are currently used to clinically assess SLE renal disease activity, such as anti-dsDNA antibodies and complement component levels. Nevertheless, the correlation between these markers and LN is imperfect, and