Renal Affection in Antiphospholipid Antibody Syndrome

Essay

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By

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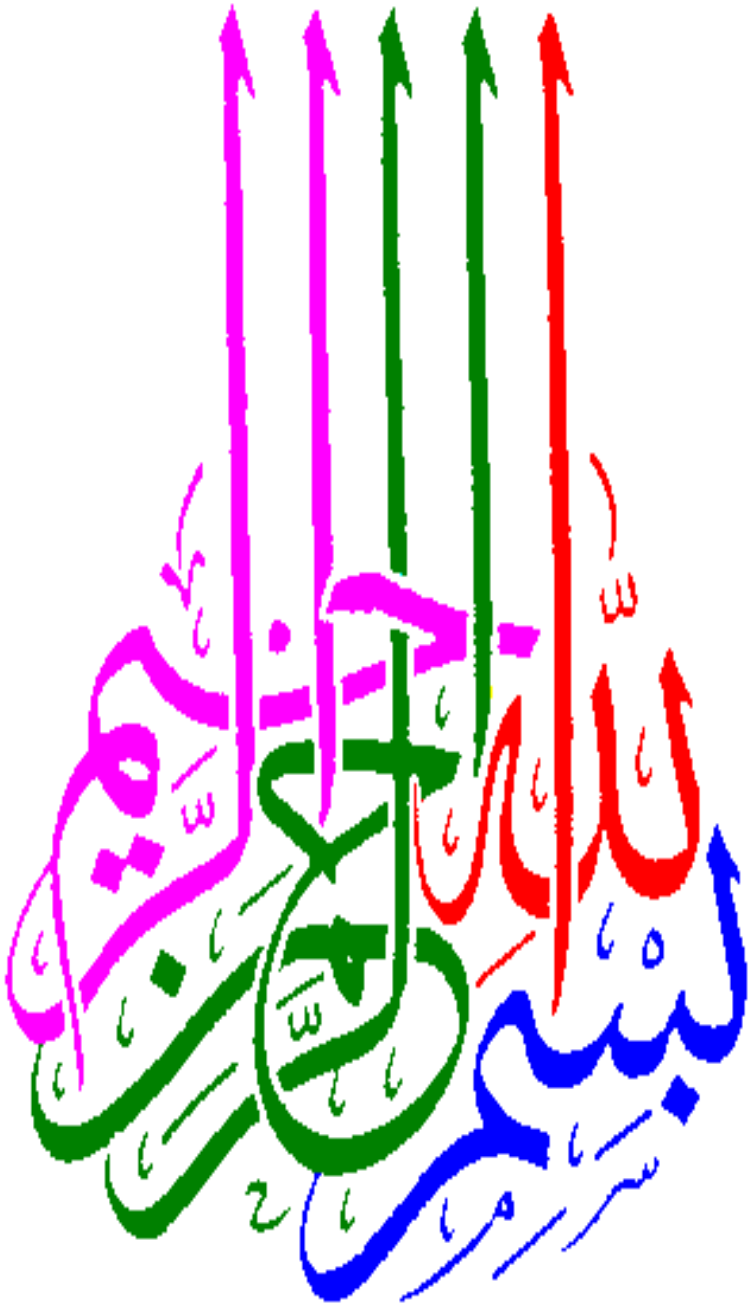
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Aziza Mohamed Ahmed Barakat

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List of Abbreviations

Abs	Antibodies
ACCP	American collegue of chest physicians
ACL	Anticardiolipin
ANA	Antinuclear antibodies
aPA	Antiphospholipid antibodies
APASS	Antiphospholipid antibody& stroke study
APC	Activated protein c
APS	Antiphospholipid antibodies syndrome
APSN	Antiphospholipid antibodies syndrome nephropathy
APTT	activated Partial thromboplastin time
ARDS	Adult respiratory distress syndrome
ARF	Acute renal failure
ASA	Acetyl salicylic acid
BAFF	B-cell lymphocyte-activating factor
B2GP1	Beta2 glycoprotein 1
BFGF	Basic fibroblast growth factor
BUN	Blood urea nitrogen
C3	Complement3
CAD	Coronary artery disease
cAMP	Cyclic adenosine monophosphate
CAPS	Catastrophic antiphospholipid syndrome
CBC	Complete blood count
CD4	Colony differentiating cell
CH50	Chromosome 50

CI	Confidence interval
CI	Cardiac index
CK	Creatine kinas
CNS	Central nervous system
CRF	Chronic renal failure
CRP	C reactive protein
CT scan	Computerized tamografy scan
CVD	Cardiovascular diseases
CVS	cerebrovascular strok
DIC	Disseminating intravascular coagulopathy
DRVVT	Dilute Russell's viper venom time
DRw53	Type of HLA linked antigen
dsDNA	Double stranded DNA
DVT	Deep venous thrombosis
ELISA	Enzyme linked immunosorbant assay
EPCR	Endothelial protein c receptor
ESR	Erythrocyte sedimentation rate
ESRD	End stage renal disease
EVB	Epstein Bar virus
FDA	Food and drug association
FSGS	Focal segmental glomerulosclerosis
GMB	Glomerular basement membrane
GMT	Glomerular microthrombosis
GP1b	Glycoprotein 1b
HCV	Hepatitis c virus
HDL	High density lipoprotein
HIV	Human immunocompromising virus

HLA	Human leukocyte antigen
Hit	Heparin induced thrombocytopenia
HMG-COA	Hydroxy methyl gluteryl COA
HRT	Hormonal replacement therapy
HUS	Hemolytic uremic syndrome
ICU	Intensive care unit
IFN	Interferon
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IL	Interleukin
IMT	Intima media thickness
INR	International normalizing ratio
ITP	Idiopathic thrombocytopenic purpura
IUGR	Intra uterine growth retardation
IVIGS	Intra venous immunoglobulins
KCT	Kaolin clotting time
LA	Lupus anticoagulant
LDH	Lactic acid dehydrogenase
LDL	Low density lipoprotein
LMWH	Low molecular weight heparin
LN	Lupus nephritis
LPS	Lipopolysaccharides
LR	Livido reticularis
Lys3117-thr318	Lysine3117-thrombin3118
MI	Myocardial infarction

MN	Membranous nephritis
MPGN	Mesangioprolefrative glomerulonephritis
MRI	Magnetic resonance imaging
MS	Multiple sclerosis
NO	Nitric oxide
OKT3	ortho kung-t3
OXLDL	Oxidized low density lipoprotein
P38 MAPKI	P38 mitogen activated protein kinase inhibitor
PAPS	Primary Antiphospholipid antibodies syndrome
PE	Pulmonary embolism
PF4	Platelet factor 4
PFO	Patent foramen ovals
PGS	Prostaglandins
PT	Prothrombin time
PTFTE	Polytetra fluorethylene
PVR	Pulmonary vascular resistance
RAP	Right arterial pressure
RAPS	Renal diseases in APS
RAS	renal artery stenosis
RCTs	Randomized clinical trails
RPR	Rapid plasma regain
RSFL	Recurrent spontaneous fetal loss
SF-36	The short form-36
SLE	Systemic lupus erythematosus
TF	Tissue factor
TFPI	Tissue factor growth inhibitor

TGS	Triglycerides
TIAS	Transient ischemic attacks
TLR-4	Toll like receptor-4
TMA	Thrombotic microangiopathy
TNF	Tissue necrotizing factor
TNF- α	Tumor necrosis factor- α
TPA	Tissue plasminogen activator
TTI	Tissue thromboplastin inhibition test
UV Light	Ultra violet light
UVB	Ultra violet band
VEGF	Vascular endothelail growth factor
VKA	Vitamin k antagonist
VDRL	Venereal diseases research laporatory
VS	Versus
VTE	Venous thrombotic event
WHO	World health organization

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Introduction

The antiphospholipid syndrome (APS) is characterized by antibodies directed against either phospholipids or plasma proteins bound to anionic phospholipids. Patients with the APS may display a constellation of clinical features including venous and arterial thrombosis, recurrent fetal losses, and thrombocytopenia **(Kumar and Roubey, 2010)**.

Antiphospholipid antibodies associated with vaso-occlusive events without any underlying disease process is termed the primary antiphospholipid antibody syndrome (PAPS). The presence of antiphospholipid antibodies and a vaso-occlusive event superimposed on an underlying disease, such as SLE or malignancy, and drugs, is a secondary antiphospholipid antibody syndrome **(Erkan and Lockshin, 2009)**.

Four types of antiphospholipid antibodies have been characterized:

- Antibodies causing a false positive VDRL,
- Lupus anticoagulants,
- Anticardiolipin antibodies,
- And Antibodies to beta2-glycoprotein I **(Kumar and Roubey, 2010)**.

Catastrophic antiphospholipid antibody syndrome is a serious, often fatal form of the disease; it is associated with

multiple organ infarctions. Death may occur within days or weeks **(Bucciarelli et al., 2009)**.

The kidney is one of the organs that can be compromised in patients with antiphospholipid antibodies (aPA). APSN (antiphospholipid antibody syndrome nephropathy) is an early clinical marker of APS. Renal complications directly resulting from thrombotic events associated with these antibodies include glomerular disease, large vessel renal involvement, and coagulation problems relating to dialysis and renal transplants. The most prominent symptoms and signs are edema, foaming urine, hypertension, or a combination.. The earliest symptom being inhibition of glomerular filtration. Clinical combinations of the symptoms allow to distinguish variant of APSN suggesting the existence of acute and chronic APSN **(Shilov et al., 2003).**

In patients with end-stage renal disease, antiphospholipid antibodies are prevalent and may increase in frequency with time on dialysis, possibly as a result of oxidative stress incurred during dialysis **(Erkan and Lockshin, 2009)**.

In primary and secondary APS combination of antiphospholipid antibody syndrome nephropathy (APSN) with impairment of the CNS, heart and skin, correlation of its basic clinical manifestations with arterial thrombosis allow us to single out a special clinical variant of APS manifesting with generalized ischemic lesions of the organs as a result of arterial/arteriolar thrombosis. Irrespective of its nature, APSN has common characteristic features combination of arterial hypertension, persistent renal dysfunction and transitory hypercreatininemia, correlating with development of arterial

thrombosis; therefore, this pathology can be considered as a variant of thrombotic vascular lesion of the kidneys **(Kozlovskaia et al., 2007).**

The thrombotic process in the intra renal vessels in PAPS dictates the necessity to develop novel approaches to treatment of such patients. In addition to immunodepressants the treatment should include indirect anticoagulants and antiaggregants **(Ioannou et al., 2008).**

Aim of the Study

Is to review the most recent literatures and researches concerning the renal affection in antiphospholipid antibody syndrome to help to improve the patient outcome.