PATTERN OF ANTIPHOSPHOLIPID ANTIBODY SYNDROME IN AIN SHAMS MATERNITY HOSPITAL

Thesis

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List of abbreviations

aCL……anticardiolipin

APASS……Antiphospholipid Antibody Stroke Study (APASS) Group.

APCs……Antigen-Presenting Cell(s)

aPL……Antiphospholipid antibodies.

APS……Antiphospholipid syndrome.

APSN……Antiphospholipid syndrome nephropathy

ARDS……Adult respiratory distress syndrome.

B_2-GPI……Beta-2 glycoprotein-1.

Be-1, Be-2……B. effector 1, 2

C5aR……Complement 5a receptor.

CAPS……Catastrophic antiphospholipid syndrome.

CD5……Cluster of differentiation

CNS……Central nervous system.

CTL……Cytotoxic T-cell

CVA……Cerebral vascular attack.

HELLP……Hemolysis, elevated liver enzymes, low platelets syndrome.

HIT/T……Heparin induced thrombocytopenia and/or thrombosis syndrome.

HIV……Human immunodeficiency virus.

HSP……Heat shock proteins.

HUS……hemolytic uremic syndrome

ICAM- I……Intracellular adhesion molecule-1.

IFNα……interferon alpha

IL……interleukin

INR……International Normalization Ratio

IUGR……Intrauterine growth retardation.

LA……Lupus anticoagulant.

LAs……Lupus anticoagulants.

LDL……Low-density lipoproteins.

MHC……Major histocompatibility complex
MRI……Magnetic resomance imaging.
MS……Multiple sclerosis.
NF-Kappa B……Nuclear factor-Kappa B
oxLDL……Oxidized low-density lipoproteins.
PAPS……Primary antiphospholipid syndrome.
SAPS……Secondary antiphospholipid syndrome.
SIRS……Systemic inflammatory response
SLE……Systemic lupus erythematosus.
sTF……Soluble-TF.
TE……Thromboembolism.
TF……Tissue factor.
TFPI……Tissue factor pathway inhibitor.
TGF-β……Tumor like growth factor
Th-I……T-hellper 1.
Th-2……T-hellper 2.
TIAs……Transient ischemic attacks.
TLRs……Toll like receptors.
TMHA……Thrombotic microangiopathic hemolytic anemia.
TMN……Thrombotic microangiopathy
Treg……T-regulatory cells.
TTP……Thrombotic thrombocytopenic purpura.
VCAM-1……Vascular cell adhesion molecule-1.
VTE……Venous thromboemrbolism.

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INTRODUCTION

The antiphospholipid antibody syndrome (APS) is defined by two major components: Presence in the plasma of at least one type of autoantibody known as an antiphospholipid antibody (aPL), and the occurrence of at least one clinical feature from a diverse list of potential disease manifestations. The most common of these clinical manifestations are categorized as venous or arterial thromboses, recurrent fetal loss, or thrombocytopenia *(Bonnie et al., 2009).*

Antiphospholipid antibodies are not directed against phospholipids, as the name of the syndrome would suggest, but against plasma proteins with affinity for anionic phospholipids *(Jane et al., 2009)*.

Definite APS or the preliminary classification criteria for definitive antibody (AB) at a post-conference workshop in 1999 in Sapporo, Japan, following the 5th international symposium on aPL. Antiphospholipid antibodies such as lupus anticoagulants (LAs) and anticardiolipin (aCL) are mainly determined as part of the diagnostic work up of patients who are suspected to suffer from APS *(Wilson et al., 1999).*

An association between circulating maternal aPL antibodies and recurrent pregnancy loss has been investigated for many years, and various interventions have been recommended to assist in the maintenance of pregnancy until delivery of a live infant *(Nowak et al, 2009).*

Women who have prior thrombosis must be anticoagulated throughout pregnancy because the risk of new thrombosis markedly increases both during pregnancy and post partum. In these women warfarin is changed to heparin or low-molecular-weight heparin *(Lockshin, 2001).*

AIM OF THE WORK

The objective of this study is assessment of Antiphospholipid syndrome patients in Ain Shams Maternity Hospital during the period of the last five years from January 2004 till January 2009 and the awareness of the physicians as regard their knowledge of this syndrome.

Chapter 1

THE IMMUNE SYSTEM

The major histocompatibility complex (MHC) is a region on the short arm chromosome 6 in which the genes are located that encode antigens that provoke strong rejection reactions. The antigens are called the Human Leukocytic Antigens (HLAs) because they were first thought to occur only on leucocytes. Although the MHC was first identified through its role in graft rejection, its true physiological role lies in the process of immune regulation and antigen recognition by T-cells. Within the MHC there are at least four major subregions or subloci called HLA-A, -B, -C and -DR. At each gene locus there are many different alternative genes or alleles, which result in an enormous diversity or polymorphism *(Peltier et al., 2003).*

Antigen is taken up by Antigen-Presenting Cell(s) (APCs) in the circulation, or resident in lymphoid organs: the APCs process the antigen and present it to the the T-helper cells (Th-cells). The APCs also release cytokines Interleukin-1 (IL-1) which stimulate T-cells and induce IL -2 receptor expression