Frequency of Autoimmune Thyroid Disorders among Patients with Systemic Lupus Erythematosus and its Relation to Disease Activity

Thesis
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Contents

List of Abbreviations

AAP	American Academy of Pediatrics
Abs	Antibodies
aCL	Anticardiolipin antibodies
Ag	Antigen
AIDS	Acquired immunodeficiency syndrome
ANA	Antinuclear antibodies
AMA	Antimicrosomal antibodies
APC	Antigen-presenting cells
aPL	Anti phospholipid antibodies
ATG Ab	Antithyroglobulin antibodies
B2- M	Beta 2 microglobulin
CBC	Complete blood count
C cells	Parafollicular cells
CD	Cluster Differentiation
CFT	Complement fixation test
CMI	Cell mediated immunity
CNS	Central nervous system
CPK	Creatine phosphokinase
CSA	Cyclosporin A
CT	Computed tomography
DIT	Diiodonated tyrosine
DNA	Deoxyribonucleic acid
DHEA	Dihydroepiandrosterone
EEG	Elecro encephalograph
ELISA	Enzyme-linked immunosorbent assay
EPO	Erythropoietin
ESR	Erythrocte sedimentation rate
FANA	Flurescent antinuclear antibodies
Fc receptor	Crystalline -fraction receptor
FNA	Fine needle aspiration
F T_3	Free Triiodothyronine
F T_4	Free Thyroxine
GD	Grave´s disease
γ globulin	Gamma globulin

HIV	Human immunodeficiency virus
HLA	Human leucocyte antigen
HPF	High power field
IFAT	Indirect fluorescent antibody test
IFN	Interferon
Ig	Immunoglobulin
IHA	Indirect haemagglutination
IL	Interluekin
LA	Lupus anticoagulant
LN	Lupus nephritis
LE cells	Lupus erythmatosus cell
MFM	Mycofenolate mofetil
MHC	Major histocompatibilty complex
MIT	Monoiodonated tyrosine
MRI	Magnetic resonance imaging
NK cells	Natural killer cells
NIS	Na iodide symporter
NTI	Non thyroidal illness
Pmol	Pico- mole
PPT	Partial thromboplastin time
RAIU	Radioactive iodine uptake
RNA	Ribo nucleic acid
RNP	Ribonucleoprotein
RRNA	Ribosomal ribonucleic acid
r T_3	Reverse Triiodo thyronine
SLE	Systemic lupus erythematosus
SM Ab	Anti smith antibodies
F T_3	Triiodothyronine
F T_4	Thyroxine
TBPA	Thyroxine binding Prealbumin
TBG	Thyroxine binding globulin
Tg	Thyroglobulin
Th	T helper cell
TH	Thyroid hormones
TNF	Tumor necrosis factor
TPO	Thyroid peroxidase

TPO Ab	Thyroid peroxidase antibodies
TRH	Thyrotropine releasing hormone
TSH	Thyroid stimulating hormone
TSI	Thyroid stimulating immunoglobulins
TT_3	Total triiodothyronine
TT_4	Total thyroxine
TTF	Thyroid transcription factor
UVA, UVB	Ultraviolet A,B waves
WBCs	White blood cells
WHO	World health organization

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الاختلال المناعى للغدة الدرقية في مرضى الذئبة الحمراء و علاقته بدرجة نشاط المرض

رسالة الماجستير المقدمة من الطبيب

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Introduction

Autoimmune diseases are related to genetic, hormonal and environmental factors. They can be systemic or organ specific and even coexist in the same individual **(Alarcon-Riqueleme, 2005)**.

Lupus has been known as a diagnostic concept for at least 150 years. Whilst it was classified as a disease of the skin in the heyday of dermatology at the end of the 19th century, it had been categorized as a disease of the immune system in the 1950s, whereas it recently has been reclassified to a genetic disorder **(Alarcon- Riquelme, 2005).**

Systemic lupus erythematous (SLE), is a disorder of the immune system in which the organism fails to recognize the immune self and starts to destroy vital organs and functions of the body. Autoimmune reaction is thought to be the consequence of deregulated apoptosis, i.e. when many cells start their programmed cell death prematurely. SLE is a systemic disorder, which affects the whole person: organs, skin, and the brain **(Alarcon-Riqueleme, 2005).**

Thyroid hormones also play critical roles during emberyogensis and early life, and have profound metabolic effects in adult life, including changes in oxygen

consumption, protein, carbohydrate, lipid and vitamin metabolism **(Tata and Windell, 1996).**

Proper function and maintenance of thyroid hormones have biological, medical, and social significance. As hormones, they have prominent effects on the growth, development,and metabolism of virtually every cell and organ **(Yen, 2001).**

The association between SLE and thyroid abnormalities was first described by **(Hijmans and White , 1961)** who showed that the presence of thyroid disturbance appeared to be more frequent in SLE patients than in the general population. Furthermore, antiperoxidase and antithyroglobulin antibodies have been frequently found in SLE patients when compared to control groups as well as in the general population **(Vianna et al., 1991)**.

The increased prevalence of autoimmune thyroiditis in SLE is a compelling evidence that the organ/non-organ-specific dichotomy of autoimmune diseases is more apparent than real. At least one reason for this association is that both disorders share HLA-DR3 as a susceptibility factor **(Weetman and Walport, 1987).**

Aim of the Work

To study the frequency of autimmune thyroid disorders among patients with systemic lupus erythematosus and to detect a possible relation to lupus activity.

SYSTEMIC LUPUS ERYTHEMATOSUS

Definition:

Systemic lupus erythematosus (SLE) is a disease characterized by presence of autoantibodies directed against self-antigens and resulting in inflammatory damage to target organs including the kidneys, blood cells and central nervous system. The natural history of SLE is unpredictable, and therefore early diagnosis and treatment can greatly improve the prognosis of the disease **(Gitelman and Miller, 2004).**

Etiology:

The cause and disease mechanism of SLE remain unknown **(Gladman and Urowitz, 1998).** The etiology may be multifactorial including genetic, hormonal and environmental factors contributing to immune deregulation in lupus disease **(Woods, 1993).** It seems that the causing factors initiate the disease in an already predisposed person and separate mechanisms then precipitate the disease and maintain the pathogenic process **(Horwitz, 1993).**