بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

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TRANSOESOPHAGEAL ECHOCARDIOGRAPHY (TEE) ASSESSMENT OF CARDIAC ABNORMALITIES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) : CORRELATION WITH LEVEL OF ANTIPHOSPHOLIPID ANTIBODIES .

Thesis

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By

Abdallah Sageer Sulaiman Salem

MBBCH (Alexandria..)

Faculty of Medicine

University of Alexandria

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SUPERVISORS

Prof.Dr.EBTIHAG AHMED HAMDI
Professor of Cardiology and Angiology
Faculty of Medicine
University of Alexendria

Prof.Dr.MAGDY ABD EL AZIZ ZEHIRY
Professor of Internal Medicine
Faculty of Medicine
University of Alexandria

Dr.MOHAMAD AYMAN ABD EL MONEIM
Assistant Professor of
Cardiology and Angiology
Faculty of Medicine
University of Alexendria

CO-WORKER

Dr.KAMAL MAHMOUD AHMED
Assistant Professor of
Cardiology and Angiology
Institute of Medical Research
University of Alexendria

ABBREVIATIONS

ANA	Antinuclear antibody
Anti-ds DNA	Antibody to double-stranded DNA
aPLs	Antiphospholipid antibodies
B cells	B lymphocytes
C2	The second complement
DNA	Deoxyribonucleic acid
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IL2	Interleukin 2
RNA	Ribonucleic acid
RNP	Ribonucleoprotein
SLE	Systemic lupus erythematosus
Sm	Smith antigen
T cells	T lymphocytes
TEE	Transoesophageal echocariography
TTE	Transthoracic echocardiography

CONTENTS

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INTRODUCTION

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Systemic lupus erythematosus (SLE) is a multi-system connective tissue disease characterized by the presence of numerous autoantibodies, circulating immune complexes and widespread immunologically determined tissue damage.[1]

The clinical course of SLE is characterized by periods of remission and relapses.

Historical perspective:

The term lupus is drived from the erosive nature of the condition which was linked to the damage wrought by a hungry walf. This term was first used in the thirteenth century by Rogerius.[2]

The medical term lupus erythematosus was first used by the French dermatologist Cazenave in 1851. Kaposi was the first to report that lupus could exist as a systemic disorder and not just a skin problem.[3]

Epidemiology:

Overall the incidence of SLE ranges from 15 to 50 per 100.000.[4] It affects individuals throughout the world but occurs more frequent in the USA and the Far East. American of African origin are particularly susceptible. The onset is most commonly in the second and the third decades, with a female to male ratio 9:1, the sex incidence is more equal in children and the elderly.[1]

Aetiology and pathogenesis:

Although the cause of SLE remain obscure, current concepts suggest that this is a multifactorial disorder in which there is profound disturbance of immune regulation. A defect of T lymphocyte function is associated with polyclonal B lymphocyte activation and the uncontrolled production of autoantibodies and immune complexes.[1]

The target tissue damage is caused by pathogenic autoantibodies, immune complexes, and T lymphocytes.[5]

A) Pathogenic autoantibodies:

All individuals produce numerous autoantibodies that react with self molecules. The characteristics of the back ground anti-self normal repertoire are that most of the antibodies are immunoglobulin (Ig) M, they have weak avidity for self antigens and they tend to be widely cross-reactive with multiple antigens. But the pathogenic autoantibody are different where they tend to be (Ig) G, have highly avidity for self antigen, and have restricted specificity.[6]

Where this pathogenic autoantibodies has some characters like: ability to bind directly to target tissues such as erythrocyte, lymphocyte, platelet membranes, or to glomerular antigens. Also its ability to fix the complement and adhernts to polyanions in cell membrane allowing the entrapment and activation of the complement to damage those tissue and release additional autoantigens.[7]

B. Pathogenic immune complexes:

Like autoantibodies, some immune complexes are pathogenic and other are not, where the interaction between the antibody and antigen lead to formation what is called antigen antibody complex or immune complex. There are some characters of pathogenic immune complex that determine the induce of tissue damage.

From these characters: the size and solubility of the complexes, their concentration, their ability to engage and activate the complement system, and the duration of their presence in the circulation[8] for example in experimental animals, the complexes of intermediate size circulate and cause tissue damage, whereas larger complexes are insoluble and are rapidly cleared from circulation by mononuclear phagocytic cell system (MPS). Smaller complexes may fail to activate the mediator system or be too small to be trapped in vessel walls, also some immune complexes are "tissue tropics" and prone to bind to tissues because they have a net cationic charge or because the antibodies they contain are directed against tissue components.[9]

C. Pathogenic T lymphocutes

The organ damage that occur due to pathogenic T cell include: Polymyositis, synovitis, subacute cutaneous lupus skin lesion, vasculitis.[5]

Evidence for genetic factors in the aetiology of the disease include:

(a) its occurance in monozygotic twin pairs (b) a higher than expected prevalence of SLE, other connective tissue diseases, antinuclear antibodies and immune complexes in related family members. (c) inherited deficiency

of isolated complement components, notably C_2 in some patients. (d) increased prevalence of histocompatibility antigens HLA-B8 and DR3.[1]

Environmental factors that may play a role I the pathogenesis of SLE:-
1) Definit most important factors: (a) ultraviolet B light. (b) Sex hormones, where up to 70% of SLE patients have disease flared by exposure to UV light.[10]

Several experiment have suggested mechanism by which exposure to UV light might accelerate disease. For example exposure of DNA to UV light increase thymine dimers, which renders the DNA more immunogenic.[11] Exposure of skin to UV light results in movement of nuclear and cytoplasmic DNA and RNA-protein antigen to the surface of cells (nucleosomes, Ro/ss-A and U 1 RNP antigen) where they might be bound by sensitized T cells (lymphocytes cell) or antibodies resulting in a flar of lupus dermatitis.[12]

In addition, damage to cells induced by UV light increase release of heat shock proteins, which participate in activation of autoreactive T cells.[13]

(b) Sex hormones: oestrogen play important role as determinant of disease activity. Exacerbations occur commonly in pregenancy and puerperium and prevalence is increased in fertile women (female to male ratio 9:1 between menarche and menopause, 3:1 in young and old), those using oral contraceptives.[14]