Ocular Manifestations in Egyptian SLE patients

Thesis

Submitted for Partial Fulfillment of the Master Degree in Internal Medicine

Presented by

Mostafa Adel Mohammed Mohammed

M.B.B.CH

Under supervision of

Prof.Dahlia Abdel Mohsen Hussein

Professor of Internal Medicine and Rheumatology
Ain-Shams University

Prof.Samah Abdel Rahman Elbakry

Professor of Internal Medicine and Rheumatology
Ain-Shams University

Dr. Nashwa Aly Morshedy

Lecturer of Internal Medicine and Rheumatology
Ain-Shams University

Faculty of Medicine
Ain-Shams University
2016

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List of Abbreviations

Abb.	Full term
ACL	Anticardiolipin
ACR	American College of Rheumatology
ANA	Anti-Nuclear Antibody
anti-dsDNA	anti-double stranded Deoxyribonucleic acid
APC	antigen presenting cell
APLs	Anti-Phospholipid antibodies
aPTT	activated partial thromboplastin time
AZA	Azathioprine
BAL	Bronchoalveolar lavage
BILAG	British Isles Lupus Activity Group
BlyS	B-lymphocyte stimulator
BUN	Blood Urea Nitrogen
C3	Complement 3
C4	Complement 4
CBC	Complete blood count
CD	Cluster for Differentiation
CH50	50% hemolytic complement
CNS	Central Nervous System
CPK	Creatine phospho-kinase
CRP	C-reactive Protein
CSA	Cyclosporin A
CT	Computed tomography
CTLA4	Cytotoxic T-lymphocyte-associated antigen 4
CVA	Cerebrovascular Accident
CVD	Cardiovascular disease
CYC	Cyclophosphamide
DLE	Discoid lupus erythematosus
DMARDs	Disease-modifying antirheumatic drugs
DRVVT	Dilute Russell viper venom time
ECLAM	European Consensus Lupus Activity Measurement
ELISA	Enzyme-linked immunosorbent assay
ESR	Erythrocyte sedimentation rate

List of Abbreviations cont...

Abb.	Full term
FDA	Food and Drug Administration
FFA	fluorescein angiography
G6PD	Glucose-6-phosphate dehydrogenase
HCQ	Hydroxychloroquine
HGB	Hemoglobin
hLL2	humanized LL2
ICG	Indocyanine green
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IL	Interleukin
ILD	Interstitial lung disease
INF-γ	Interferon gamma
IOP	Intra-ocular pressure
IVIg	Intravenous Immunoglobulin
LAC	Lupus anticoagulant
LAI	Lupus Activity Index
LDH	lactate dehydrogenase
MAC	Membrane attack complex
MMF	Mycophenolate mofetil
MPA	mycophenolic acid
MRI	Magnetic Resonance Imaging
NMDA	N-methyl-D-aspartate
NMOSDs	Neuromyelitis optica spectrum disorders
NSAIDs	Non-steroidal anti-inflammatory drugs
OCT	optical coherent tomography
ONTT	Optic Neuritis Treatment Trial
P/C	Protein/creatinine
PH	Pulmonary hypertension
PIP	Proximal interphalangeal
PLT	Platelets
RBCs	Red Blood Cells
RNA	Ribonucleic acid
RNP	Ribonucleoprotein

List of Abbreviations cont...

Abb.	Full term
RPR	Rapid plasma reagin
SCLE	Subacute cutaneous Lupus erythematosus
SLAM	Systemic Lupus Activity Measure
SLE	Systemic lupus erythematosus
SLEDAI	Systemic Lupus Erythematosus Disease Activity Index
SLICC	Systemic Lupus International Collaborating Clinics
SPSS	Statistical Package for Social Science
SS	Sjogren Syndrome
TNF	Tumor Necrosis Factor
WBC	White Blood Cell
Wt	Weight

Abstract

Cotton-wool spots were the most common retinal abnormal finding followed by other rare forms of retinopathy as vasculitis, attenuated blood vessels, papilledema and pale optic disc.

SLE patients with ocular affection especially retinopathy had significantly higher levels of Anticardiolipin antibodies, Lupus Anticoagulant and also disease duration and SLEDAI score when compared to those patients without ocular affection.

Key words: Ocular Manifestations - Food and Drug Administration- Interleukin – Hydroxychloroquine - Mycophenolate mofetil - Optical coherent tomography

INTRODUCTION

Systemic lupus erythematosus (SLE) is a chronic, multisystem, autoimmune disease that can affect any part of the human body. Ocular manifestations in SLE are fairly common and should be taken seriously as they may lead to significant morbidity and visual deterioration. In addition to that, ocular manifestations could represent the disease activity of the lupus (especially in the presence of retinal signs) and serve as an indicator of adequacy of treatment in control of the disease ***(Arevalo et al., 2002).***

SLE can affect the periorbita, ocular adnexa, eye, and optic nerve. The most common association is keratoconjunctivitis sicca, while the most visually devastating sequelae occur secondary to optic nerve involvement and retinal vaso-occlusion ***(Neal et al., 2012).*** Orbital involvement is a rare manifestation of SLE. Vasculitis, myositis, and panniculitis have all been described. Signs and symptoms include proptosis, enophthalmos, orbital pain, blurred vision, chemosis, and restriction of extraocular movements ***(Stavrou et al., 2002).*** Periorbital edema is an uncommon manifestation of systemic and discoid lupus erythematosus with an overall incidence of 4.8% ***(Tuffanelli et al., 2002).*** Typical lesions of discoid lupus erythematosus are slightly raised, scaly, and atrophic rarely affecting the eyelids. Episcleritis is generally a benign inflammation of the episclera and typically occurring in

young females with incidence 2.4 % in SLE patients ***(Sitaula et al., 2011).*** Corneal epitheliopathy, scarring, ulceration and filamentary keratitis can all occur secondary to keratoconjunctivitis sicca. More rare corneal complications include peripheral ulcerative keratitis ***(Messmer et al., 1999),*** which can be marker of active systemic vasculitis, interstitial keratitis, and keratoendothelitis ***(Varga et al., 1993).***

Lupus retinopathy is one of the most common vision-threatening complications of systemic lupus erythematosus with an incidence of up to 29% in patients with active systemic disease. A strong correlation exists between presence of retinopathy and CNS disease ***(Stafford-Brady et al., 1988).*** The most common pattern of retinopathy is microangiopathy similar to diabetic and hypertensive retinopathy. The earliest findings are small intraretinal hemorrhages and cotton wool spots ***(Ushiyama et al., 2000)***. Retinal vasculitis, a subset of retinal vasculopathy featuring inflammation of the retinal arterioles or venules, tends to have poorer visual outcomes and present in an acute onset fashion. A large percentage of these patients have concomitant antiphospholipid antibodies including anticardiolipin and lupus anticoagulant ***(Montehermoso et al., 1999)***.

AIM OF THE STUDY

It is to study Ocular manifestations in Egyptian SLE patients and its correlation with disease activity.

Chapter One
SYSTEMIC LUPUS ERYTHEMATOSUS

Introduction:

Systemic lupus erythematosus (SLE) is a chronic autoimmune connective tissue disorder affecting multiple organ systems often with a relapsing and remitting clinical course. It can affect the skin, joints, kidneys, Eye, brain and other organs. The underlying cause of autoimmune diseases is not fully known ***(Palejwala et al., 2012).***

SLE is much more common in women than men. It may occur at any age but appears most often in people between the ages of 10 and 50. African Americans and Asians are affected more often than people from other races ***(Ruiz-Irastorza et al., 2010)***

Its pathogenesis is multifactorial mainly genetic and environmental in which it occurs to genetically predisposed individuals resulting in irreversible loss of immunologic self-tolerance ***(Ruiz-Irastorza et al., 2010).***

The reported prevalence SLE in the population is 20 to 150 cases per 100,000. In women, prevalence rates vary from 164 (white) to 406 (African American) per 100,000 ***(Pons et al., 2010).***

Due to improved detection of mild disease, the incidence nearly tripled in the last 40 years of the 20th century. Estimated