Serum and Urinary Level of High Mobility Group Box 1 Protein in Patients with Lupus Nephritis

Thesis

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By

Dalia Mohamed Gamal

M.B., B.CH, Msc., Internal Medicine
(Ain Shams University)

Under Supervision of

Prof. Dr./ Mervat Mamdouh Abo-Gabal

Professor of Internal Medicine and Rheumatology Faculty of Medicine – Ain Shams University

Prof. Dr./ Hanan Mohamed Farouk

Professor of Internal Medicine and Rheumatology Faculty of Medicine – Ain Shams University

Assist. Prof. Dr./ Maryam Ahmed Abdel Rahman

Assistant Professor of Internal Medicine and Rheumatology Faculty of Medicine – Ain Shams University

Assist. Prof. Dr./ Noran Osama Ahmed El-Azizi

Assistant Professor of Internal Medicine and Rheumatology Faculty of Medicine – Ain Shams University

Faculty of Medicine

Ain Shams University

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بسم الله الرحمن الرحيم
وَقُلِ اعْمَلُوا فَسَيَرَى اللَّهُ
عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ
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Dalia Mahmoud Gamal

Contents

List of Abbreviations

APS	**:**	Antiphosholipid syndrome
AVN	**:**	Avascular necrosis
AZA	**:**	Azathioprine
BAFF	**:**	B cell activating factor
CIcs	**:**	Circulating immune complexes
CRR	**:**	Complete renal response
CSA	**:**	Cyclosporine
CYC	**:**	Cyclophosphamide
ERS	**:**	Estrogen receptors
GBM	**:**	Glomerular basement membrane
HMGB1	**:**	High Mobility Box protein 1
IL1	**:**	Interleukin 1
IL5	**:**	Interleukin 5
IVIG	**:**	Intravenous immunoglobulin
LDGS	**:**	Low density granulocytes
LN	**:**	Lupus nephritis
MiRNA	**:**	Micro RNA
MMF	**:**	Mycophenolate
NETS	**:**	Neutrophil extra cellular traps
PDCS	**:**	Plasmacytoid dendritic cells
PRR	**:**	Partial renal response
PTECS	**:**	Proximal tubular epithelial cells

RAGE	**:**	Receptor for advanced glycation end products
RTX	**:**	Rituximab
SLE	**:**	Systemic lupus erthyematosus
SNP	**:**	Single nucleotide polymorphism
TGFB	**:**	Transforming growth factor beta
Th2	**:**	T helper cells
TLRS	**:**	Toll like receptors
TNF	**:**	Tumor necrosis factor

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Abstract:

Background: High mobility group box 1 protein (HMGB1) is a nuclear DNA binding protein acting as a pro-inflammatory mediator following extracellular release. HMGB1 has been increasingly recognized as a pathogenic mediator in several inflammatory diseases. Elevated serum and urinary levels of HMGB1 have been detected in autoimmune diseases in particular Systemic lupus erythematosus (SLE).

Aim of the Work: the aim of this study was to assess serum and urinary levels of high mobility group box 1 protein in correlation to renal histopathology, disease activity and organ damage in systemic lupus patients.

Patients and Methods: The study was a cross sectional and prospective study carried out on 25 patients with proved active lupus nephritis, all patients were subjected to the following: history taking, clinical examination, CBC, ESR urine analysis, protein/creatinine ratio, C3, C4, assessment of disease activity using Bilag score, serum and urinary levels of High mobility box protein 1 both at the start of the study and after 6 months of follow up and renal biopsy at the beginning of the study.

Results: Levels of serum and urinary High Mobility Box protein 1 were high among the studied patients at base line as regard it's reference range, with a significant difference when compared to their levels after follow up. After follow up the study revealed a positive correlation between disease activity using BILAG score and serum High Mobility box protein 1 also the study showed significant association/ correlation between degree of severity of nephritis and levels of serum HMGB1finally an association was found between levels of urinary High Mobility Box protein 1 and class v of lupus nephritis.

Conclusion: HMGB1 levels (serum and or urinary) are high in SLE patients with nephritis compared to reference range. There is an association / correlation not only between HMGB1 and disease activity in SLE patients but also between it and renal disease activity, severity and class.

Key words: C3, C4, HMGB1, pr/creat ratio, ESR