

## **Elevated High-Mobility Group Box1 Level is Associated with Alterations of Interferon Gamma in Egyptians with Lupus Nephritis**

### **Background and Objectives:**

High Mobility Group Box Protein-1 (HMGB-1) is identified as a pro-inflammatory mediator of tissue injury. Interferon-gamma (IFN- $\gamma$ ) dose-dependently induced the release of HMGB1. The understanding of SLE cytokine networks is very important for systemic lupus erythematosus (SLE) treatment strategy and drug development. The aim of this study was to determine the association of HMGB1 & IFN- $\gamma$  levels with lupus nephritis and their relation to disease activity, autoantibodies and laboratory parameters.

### **Methods:**

The study population consisted of 50 lupus nephritis patients compared to 30 age and sex matched healthy control (HC). HMGB1 & IFN-  $\gamma$  levels were measured by enzyme linked immunosorbent assay (ELISA) methods.

### **Results:**

The plasma levels of HMGB1 and IFN- $\gamma$  were significantly increased in lupus nephritis patients compared to HC ( $P < 0.01$  &  $P < 0.01$ , respectively). Additionally, plasma HMGB1 was positively correlated with each of: IFN- $\gamma$  ( $P < 0.001$ ), creatinine ( $P < 0.05$ ), ESR ( $P < 0.05$ ) & 24 hour urinary protein ( $P < 0.001$ ) and negatively correlated with serum albumin ( $P < 0.05$ ).

### **Conclusions:**

HMGB1 and IFN-  $\gamma$  may contribute to the generation of lupus nephritis. They may be a potential role for therapies targeting cytokines in limiting lupus nephritis in the vulnerable SLE patients.

### **Key words:**

High-mobility group box protein-1 - interferon gamma - lupus nephritis