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التوثيق الالكتروني والميكروفيلم

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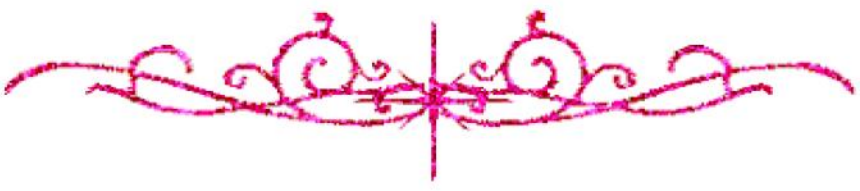

بالرسالة صفحات
لم ترد بالأصل

Serum Interleukin 35 Level in Relation to T Regulatory and T helper 17 Cells Frequency in Chronic Viral Hepatitis C Patients

Thesis

Submitted for partial fulfilment of M.D. degree in
Medical Microbiology and Immunology

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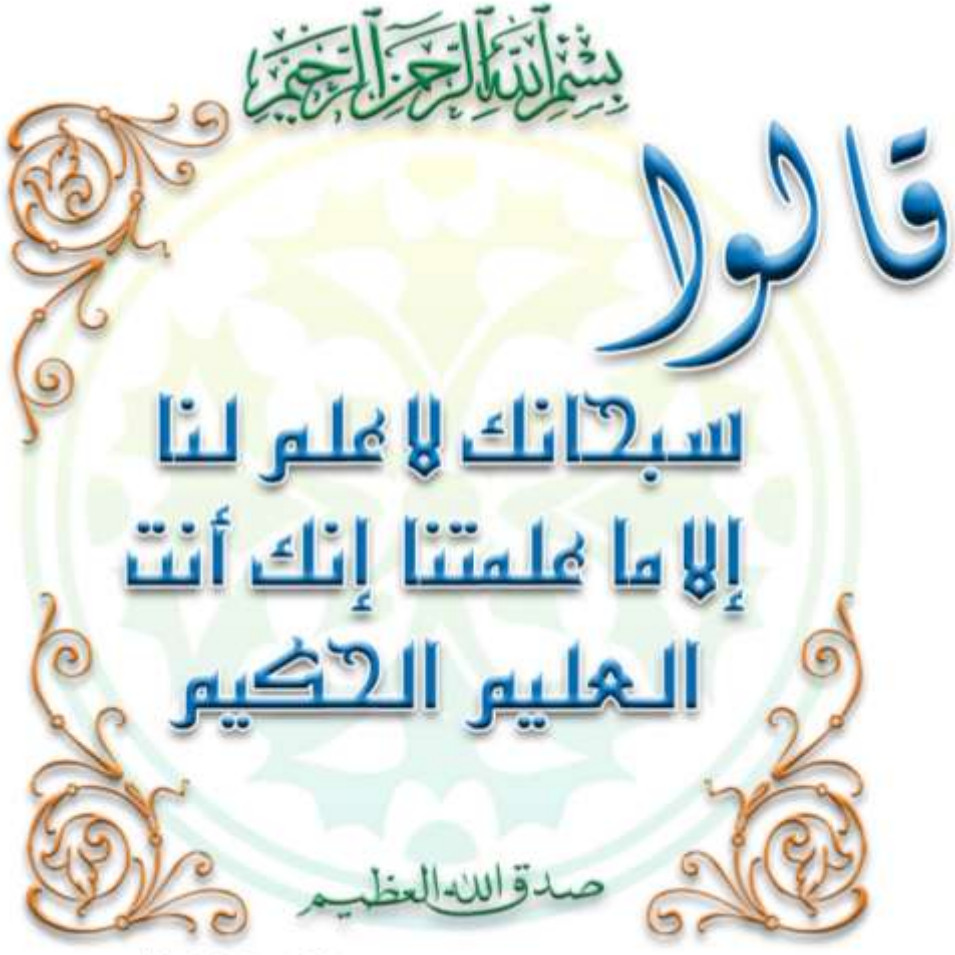

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Abstract

Interleukin-35 (IL-35), secreted mainly by T-regulatory cells (T-regs), has been considered to have immunosuppressive actions in many auto-immune diseases and tumors. However, information about its role in chronic hepatitis C (CHC) infection is still limited. We aimed to study the role of IL-35 within CHC infection and to assess its correlation with T-regs and T-helper 17 cells (Th-17). Therefore, we measured serum IL-35 concentrations using ELISA assay in 25 normal controls (NCs) and in 30 CHC patients before receiving direct antiviral agents (DAA) treatment and after 3 months of treatment end. T-regs and Th-17 cells frequencies were assessed via flow-cytometry in control group and patients' group before treatment. The results showed that serum IL-35 levels revealed a highly significant increase in CHC patients compared to NCs ($P < 0.001$). Moreover, IL-35 levels significantly decreased in patients 3 months after treatment end ($P = 0.02$). Both Th-17 and T-regs were significantly increased in patients more than in NCs and a positive correlation was observed between them. However, T-regs/Th-17 ratio did not show significant difference from the ratio in NCs. IL-35 levels were positively correlated with viral load and T-regs frequency, but not with Th-17 frequency. IL-35 levels did not correlate with liver enzymes or functions. These results suggested that IL-35 enhances the immunosuppressive functions of T-regs, protecting the liver from HCV induced damage and contributes to viral persistence. IL-35 may represent a possible immunotherapeutic strategy for chronic persistent infection if given with DAA, especially in relapsing or non-responding cases.

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List of Abbreviations

Abb.	Full term
AASLD	*American Association for the Study of Liver Diseases*
AFP	*Serum alpha fetoprotein*
ALT	*Alanine transferase*
anti-HCV	*Antibodies to hepatitis C*
AST	*Aspartate aminotransferase*
bDNA	*Branched deoxyribonucleic acid*
C	*Core*
CDC	*Control and Prevention*
cDCs	*Conventional DCs*
CHC	*Chronic hepatitis C*
CTLs	*Cytotoxic T cells*
CTP	*Child-Turcotte-Pugh*
DAA	*Direct antiviral agents*
DCs	*Dendritic cells*
E	*Envelope*
EDHS	*Egyptian Demographic Health Survey*
EHIS	*Egyptian Health Issues Survey*
FDA	*Food and Drug Administration*
HBV	*Hepatitis B virus*
HCC	*Hepatocellular carcinoma*
HCV	*Hepatitis C virus*
IFN	*Interferon*
IL	*Interleukin*
IL-35	*Interleukin 35*
ITIM	*Inhibition motif–containing*
KIRs	*Killer Inhibitory Receptors*
LFT	*Liver function tests*
MAPK	*Mitogen-activated protein kinase*