IgM ANTIBODY TO HEPATITIS C VIRUS CORE ANTIGEN: CORRELATION WITH HCV RNA DETECTED BY POLYMERASE CHAIN REACTION

Thesis
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By

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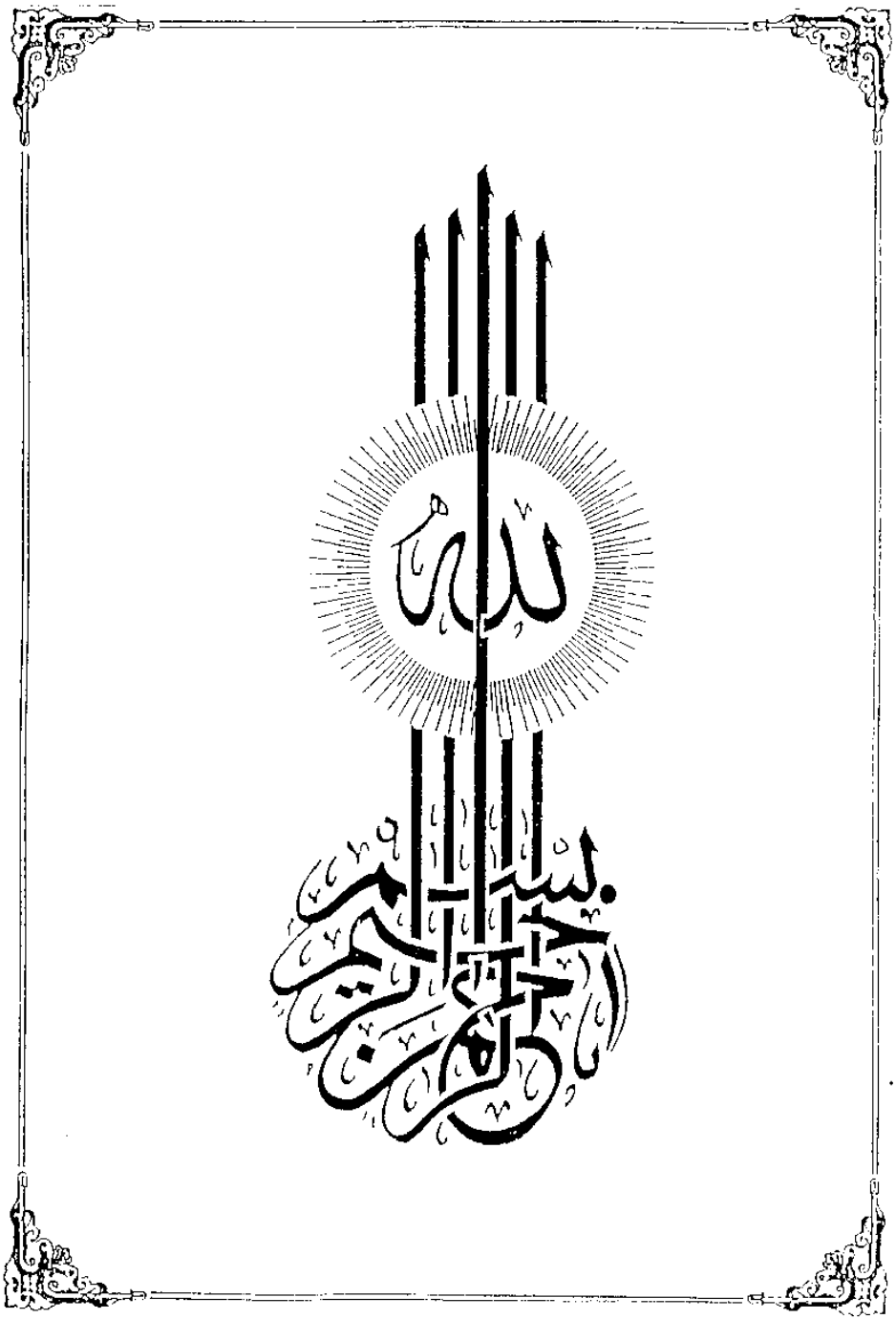

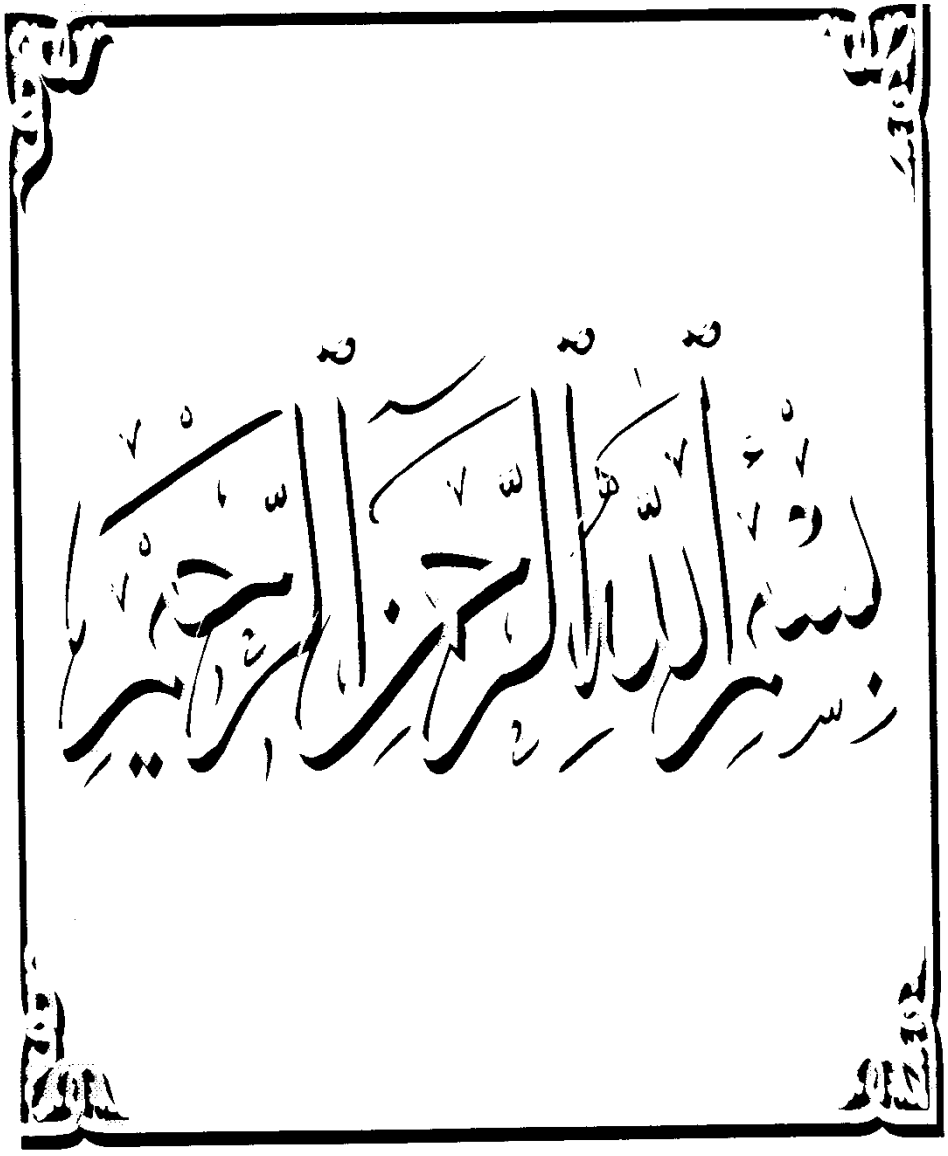

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LIST OF ABBREVIATIONS

AIH:	Autoimmune hepatitis.
ALT:	Alanine aminotransferase.
AMA:	Antimitochondrial antibody.
ANA:	Antinuclear antibody.
APCA:	Antiparietal cell antibody.
ASMA:	Antismooth muscle antibody.
AST:	Aspartate aminotransferase.
b.DNA:	Branched deoxyribonucleic acid.
C:	Core.
cDNA:	Complementary DNA.
CIC:	Circulating immune complexes.
dNTP:	Deoxynucleoside triphosphate.
E:	Envelope.
ELISA:	Enzyme linked immunosorbent assay.
FEIA:	Fluorescent enzyme immunoassay.
HAV:	Hepatitis A virus.
HBV:	Hepatitis B virus.
HBc:	Hepatitis B core.
HBsAg:	Hepatitis B surface antigen.
HCV:	Hepatitis C virus.
HVR:	Hypervariable region.
IFN:	Interferon.
IgG:	Immunoglobulin G.
IgM:	Immunoglobulin M.
Keq:	Kilo equivalent.
LKM:	Liver/kidney microsomal.
NCR:	Non coding region.
NANBH:	Non-A, non-B hepatitis.
NS:	Non structural.
PBMNCs:	Peripheral blood mononuclear cells.
PCR:	Polymerase chain reaction.
PTH:	Post-transfusion hepatitis
RIBA:	Recombinant immunoblot assay.
RNA:	Ribonucleic acid.
RT:	Reverse transcription.
SOD:	Superoxide dismutase.

ABSTRACT

Hepatitis C virus infection can be accompanied by a number of systemic, non-specific or autoimmune disorders. An IgM antibody response to HCV has been shown directed to HCV NS4 region derived C100 antigen. IgM anti-HCV core may serve as serological marker of active HCV replication in chronic HCV carriers. Most of the epidemiological studies have shown that antibodies to HCV are frequent in patients with AIH type 1 or 2 or in patients with autoantibodies (anti-LKM, AMA, ANA, ASMA, APCA).

This study was conducted on 46 chronic hepatitis C virus infected patients. They performed HCV RNA assessment by PCR, anti-HCV IgG by ELISA and liver enzymes assay. All patients were subjected to HCV core IgM, autoantibodies detection (anti-LKM, AMA, ANA, ASMA, APCA) and anti-HBc IgG.

Analysis of HCV core IgM results revealed 76% positive results and 24% negative results. IgM index showed significant correlation with HCV RNA semiquantitation and liver enzymes (AST and ALT). The present study reveals a high prevalence of different autoantibodies in patients chronically infected with HCV.

Thus we conclude that anti-HCV IgM antibodies provide an easily accessible and cheap serological marker of active viral replication. There is an association between HCV infection and the presence of autoantibodies. The distinction between autoimmune hepatitis and chronic hepatitis C virus infection is therapeutically important.

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