

**Pretreatment serum ferritin as a
predictor of response to pegylated
interferon and ribavirin therapy in
patients with chronic hepatitis C
infection**

THESIS

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Tropical Medicine**

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بسم الله الرحمن الرحيم

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا

عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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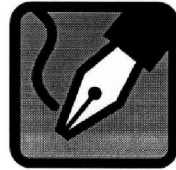
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List of Abbreviations

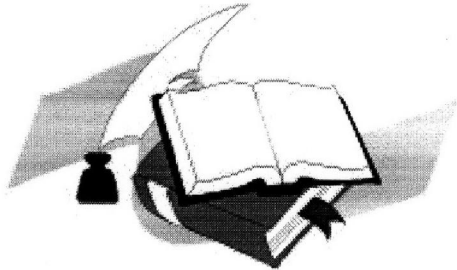
AIH	Autoimmune hepatitis
ALT	Alanine Aminotransferase
ARFP	Alternate Reading Frame Protein
AST	Aspartate Aminotransferase
BMI	Body Mass Index
CBC	Complete Blood Count
CD	Cluster of differentiation
CHC	Chronic Hepatitis C
DC	Delta change
DNA	Deoxyribonucleic acid
ELISA	Enzyme-linked immunosorbent assay
EVR	Early virological response
FCH	Fibrosing Cholestatic Hepatitis
GGT	Gamma-glutamyl transpeptidase
HAV	Hepatitis A virus
HBV	Hepatitis B virus
HCC	Hepato cellular carcinoma
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HLA	Human leukocyte antigen
IFN	Interferon
IRES	Internal ribosome entry site
IL	Interleukin
MELD	Model for End-Stage Liver Disease
MPGN	Membranoproliferative glomerulonephritis
NAFLD	Non-alcoholic fatty liver disease
NIH	National Institute of Health
NS	Nonstructural
PCR	Polymerase Chain Reaction
RNA	Ribonucleic acid
RVR	Rapid virological response

List of Abbreviations (cont.)

SOC	Standard of care
SVR	Sustained virological response
TGF	Transforming growth factor
Th1	T- helper cells 1
Th2	T- helper cells 2
TMA	Transcription-mediated amplification
ULN	Upper Limit of Normal
UTR	Untranslated region



Introduction



Introduction

Hepatitis C virus (HCV) infection is a worldwide major health problem. Recent estimates indicate that approximately 130–210 million individuals, i.e. 3% of the world population, are chronically infected with HCV (*Shepard et al., 2005 and Lavanchy, 2009*). More than 90% of HCV isolates from Egyptian patients are of the genotype 4 variant, which is significant considering that Egypt has the highest worldwide prevalence, with 9% country wide and up to 50% in certain rural areas, due to specific modes of infection (*Kamal and Nasser, 2008*). Eventually, 20-50% of chronic HCV patient's progress to cirrhosis and 5-7% develop hepatocellular carcinoma within 10-20 years (*Mohamed, 2004*).

The current treatment for patients with chronic hepatitis C is the combined Ribavirin and Interferon-based therapies for 24 to 48 wk. Antiviral therapy for chronic hepatitis C has many goals; the primary goal is durable viral clearance as evidenced by the absence of HCV RNA in serum (virological response); the secondary goal is reduction of damage to the liver as determined by either persistently normal ALT levels (biochemical response) or improved liver biopsy, with the expectation that this will delay or prevent cirrhosis, HCC, the need for liver transplantation, and