

Cairo University
Faculty of Science
Department of Chemistry

Biochemical and Immunochemical Studies on *Vertical Transmission Of Hepatitis C Virus Infection*

Thesis

Submitted for the degree of PhD in Biochemistry

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ABSTRACT

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Title of thesis: Biochemical and Immunochemical Studies on Vertical

Transmission of Hepatitis C Virus Infection

Degree (PhD) thesis, Faculty of Science, Cairo University, 2009

Mother-to-infant transmission of HCV represents the major cause of

pediatric HCV infection today. Here, HCV-NS4 antigen was identified in serum

samples from infected pregnant women and their cord using specific HCV-NS4

antibody and Western blot at 27-kDa. The HCV-NS4 antigen was purified and

characterized from serum and cord samples as protein in nature. The vertical

transmission of HCV-NS4 antigen occurs, the biochemical characters of this

antigen did not changed when it transmitted to neonates. The ELISA detected

the HCV-NS4 antigen in sera of infected pregnant women with detection rate

(24.5%) in serum, with detection rate (24.5%) in cord samples and with vertical

transmission (100%). Vertical transmission was not influenced by mode of

delivery.

Key words: Hepatitis C Virus, HCV-NS4 antigen, Vertical Transmission

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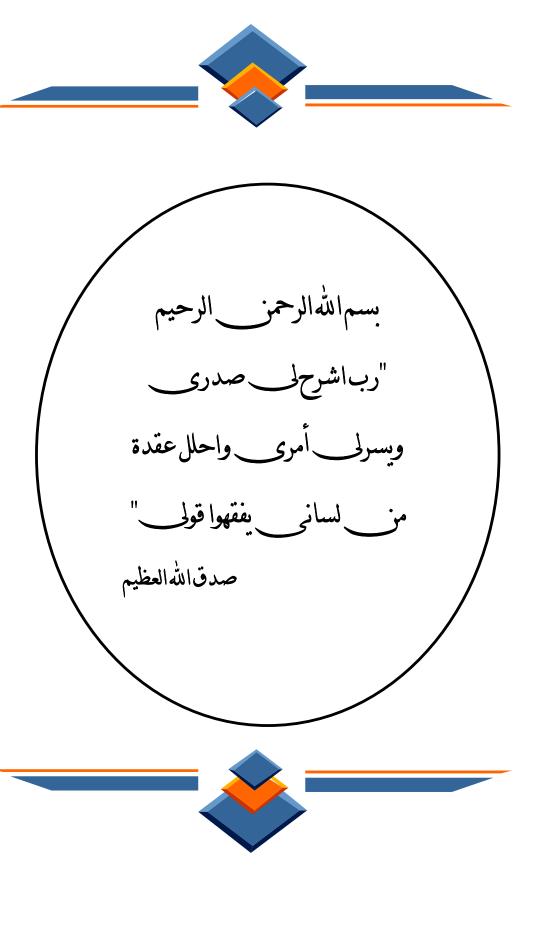
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Acknowledgments

I wish to express my gratitude to *Prof. Dr. Sanaa Osman Abdallah*,

Professor of Organic Chemistry, Faculty of Science, Cairo University for her kind supervision, invaluable revision, valuable time and continuous advices which helped me to overcome many difficulties during the study.

Gratefully, I would like to owe great thanks to **Prof. Dr. Abdelfattah Mohamed Attallah**, Professor of Immunochemistry and Molecular Genetics,

Director of Biotechnology Research Center (BRC), New Damietta, who

deserves more thanks than I can give. He kindly suggested the point of this

research and offered me all facilities with great help in designing the

experiments, close supervision, revision and valuable advices during the study.

Finally, all this work has been financially supported completely and carried out at BRC, New Damietta, Egypt and I would like to thank *Dr. Mohamed Mostafa Omran*, Research & Development Department, for his invaluable assistances, comments, and continuous encouragement during the study and I would like to thank everyone who gives me a hand throughout this study.

Hala M. El-kafrawy

2009



To my Loved Parents,

To my Dear Brothers,

To my Dear Sisters

To my Beloved and Supportive Hasband Fawaz,

To my Beloved Sons Ibrahim and Omar.

Hala M. El-Kafrawy

2009



List of abbreviations

ALT	Alanine amino transferase
Anti- HCV	Antibodies to hepatitis C virus
AST	Aspartate amino transferase
BCIP	5-Bromo-9-Chloro-3-Indolyl Phosphate
b- DNA	Branched -DNA
BSA	Bovine serum albumin
С	Core
CDC	Centers for disease control
CE	Capillary electrophoresis
CLD	Chronic liver disease
CMI	Cell-mediated immunity
Е	Envelope
ELISA	Enzyme linked immunosorbent assay
EM	Electron microscopy
EVR	Early virologic response
HAV	Hepatitis A virus
HBV	Hepatitis B virus
HCC	Hepatocellular carcinoma
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HPLC	High performance liquid chromatography
HPRT	Hypoxanthin guanine phosphoribosyl transferase
HVR	Hypervariable region
IDUs	Infection drug users
IgG	Immunoglobuin G
IgM	Immunoglobuin M
IHL	Intrahypatic lymphocytes

INF	Interferon
ISDR	Interferon sensitivity determining region
kDa	Kilo Dalton
KV	Kilo volt
mAb	Monoclonal antibody
MHD	Mantainance haemodialysis
MTP	Multi transmitted patients
NAA	Nucleic acid amplification
NANBH	Non A and non B hepatitis
NBT	Nitro blue tetra-zolium
NC	Nitrocellulose
NS	Non structural protein
PBS	Phosphate buffered saline
PCR	Polymerase chain reaction
PEG-INF	Pegylated Interferon
PNB	Para – nitrobenzoic acid
PPD	Purified protein derivative
PPD-S	Purified protein derivative florescence Seibert
RBV	Riboflavine
RIBA	Recombinant immunoblot assay
RT	Room temperature
SDS-PAGE	Sodium dodecyl sulfate- polyacrylamide gel
	electrophoresis
STD	Sexual transmitted disease
SVR	Sustained virologic response
ТАН	Transfusion associated hepatitis
TBS	Tris buffered saline
TCA	Tricholoro acetic acid

TEMED	Tetra ethylene diamine
TTI	Transfusion transmitted infection
UT	Untranslated region
UV	Ultraviolet
V	Voltage
WHO	World Health Organization

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