

Prevalence of Essential Hypertension in Patients Infected with Hepatitis C Virus

Thesis

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Dedication

To my Family

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List of Abbreviations

Abb.	Meaning
ABI	Ankle brachial index
ACE	Angiotensin converting enzyme
ALT	Alanine aminotransferase
ANA	Antinuclear antibody
AST	Aspartate transaminase
bDNA	Branched deoxyribonucleic acid
Bil	Bilirubin
BMI	Body mass index
BP	Blood pressure
CAD	Coronary artery disease
CBC	Complete blood cell count
CCP	Cyclic citrullinated peptide
CDC	Centers for disease control
CHD	Coronary heart disease
CHED	Canadian hypertension education program
CNS	Central nervous system
COX-2	Cyclooxygenase-2
CV	Cardiovascular
D-Bil	Direct bilirubin
DBP	Diastolic blood pressure
DM	Diabetes mellitus
ECG	Electro cardiogram
EIA	Enzyme immune assay

Abb.	Meaning
ESC	European society of cardiology
ESS	Epworth sleepiness scale
FDA	Food and drug administration
Fe	Ferrous
GFR	Glomerular filtration rate
HAV	Hepatitis A virus
HbA1c	Hemoglobin A1c
HBV	Hepatitis B virus
HCC	Hepatocellular carcinoma
HCV	Hepatitis C virus
HDL	High density lipoproteins
HIV	Human immunodeficiency virus
HLA	Human leucocytic antigen
HR	Heart rate
HTN	Hypertension
IG	Immunoglobulin
IGF	Insulin growth factor
IMT	Intima media thickness
INF	Interferon
IVDA	Intravenous drug abuse
JNC 7	The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure

Abb.	Meaning
KDIGO	Kidney disease improving global outcomes
Kg	Kilogram
LDL	Low density lipoproteins
LKM	Liver/kidney microsome
LP	Lichen planus
LV	Left ventricle
LVH	Left ventricular hypertrophy
MG	Myasthenia gravis
NHL	Non-Hodgkin lymphoma
NSAIDs	Non-steroidal anti-inflammatory drugs
PAD	Peripheral artery disease
PCR	Polymerase chain reaction
PCT	Porphyria cutaneatarda
PEG-INF	Pegylated interferon
POCTs	Point of care screening tests
PWV	Pulsed wave velocity
RA	Rheumatoid arthritis
RAAS	Renin angiotensin aldosterone system
RDTs	Rapid diagnostic tests
RFLPs	Restriction fragment length polymorphisms
RNA	Ribonucleic acid
RT-PCR	Reverse transcriptase-polymerase chain reaction
RVHT	Renovascular hypertension

Abb.	Meaning
SBP	Systolic blood pressure
SD	Standard deviation
SVR	Sustained virologic response
T-Bil	Total bilirubin
TIA	Transient ischemic attack
TMA	Transcription mediated amplification
U/S	Ultrasound
WHO	World health organization

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Introduction

Hypertension is one of the most common cardiovascular treatable worldwide diseases (**American Heart Association Statistics, 2003**).

Because of the associated morbidity and mortality and the cost to society, hypertension is an important public health challenge. Over the past several decades, extensive research, widespread patient education, and an early diagnosis of the disease have led to decreased mortality and morbidity rates from the multiple organ damage arising from years of untreated hypertension (**Kamran, 2012**).

However, approximately 30% of adults are still unaware of their hypertension; up to 40% of people with hypertension are not receiving treatment (**JNC 7, 2003**).

Hypertension can no longer be considered as a single disease entity. While hypertension is the most prevalent cause of stroke and kidney failure, hypertension must be recognized as part of a bigger disease conglomerate almost always accompanied by obesity, diabetes, kidney disease or many other co-existing problems involving lifestyle and/or genetics (**Frank et al., 2000**).

On the other hand Hepatitis C is a worldwide problem. The hepatitis C virus (HCV) is a major cause of both acute and chronic hepatitis. The World Health Organization (WHO) estimates that 170 million individuals worldwide are infected with hepatitis C virus (HCV) (**WHO, 2002**).

However, the prevalence of HCV infection varies throughout the world. For example, Frank et al reported that Egypt had the highest number of reported infections, largely attributed to the use of contaminated parenteral antischistosomal therapy. This led to a mean prevalence of HCV antibodies in persons in Egypt of 22% (**WHO Hepatitis C factsheet, 2011**).

Hepatitis C infection may be associated with many extrahepatic manifestations as mixed cryoglobulinemia, which is inflammation of small and medium sized blood vessels (or vasculitis) caused by deposition of immune complexes involving cryoglobulins (**Lannuzzella, 2010**).



Aim of the Work

To detect prevalence of essential hypertension among patients having hepatitis C virus infection and its value in early detection of hypertension to have better prognosis in those patients.