بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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MONA MAGHRABY

Incidence of Hepatocellular Carcinoma in Hepatitis C patients treated with Direct-Acting Antivirals and Its Relation to Hepatic Fibrosis Stage

Thesis

Submitted for Partial Fulfilment of the M.D Degree in Internal Medicine

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Mazen Moussa Elsheikh

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List of abbreviations

AASLD	American Association for the Study of Liver Diseases
AFP	Alpha-Feto Protein
ART	Anti-retroviral therapy
BCLC	Barcelona-Clinic Liver Cancer
CBP	Child bearing period
CD34	Cluster of Differentiation 34
CDC	Centers for Disease Control
CK7	Cytokertain 7
CKD	Chronic Kidney Disease
CLIP	Cancer of the Liver Italian Program
DAAs	Direct Acting Antivirals
DAC	Daclatasvir
DDIs	Drug drug interactions
EASL	European Association for the Study of the Liver
ECOG	Eastern Cooperative Oncology Group
EDHS	Egyptian Demographic Health Survey
eGFR	Estimated glomerular filteration rate
EHIS	Egyptian Health Issues Survey
EIA	Enzyme immunoassay
ER	Endoplasmic Reticulum
ESCRT	Endosomal-Sorting Complex Required for Transport
FE	Fisher Exact

HCC	Hepatocellular Carcinoma
HSP-70	Heat shock protein 70
IDSA	Infectious Diseases Society of America
IFN	Interferone
IL28B	Interleukin 28B
INR	International normalized ratio
ISDR	Interferon Sensitivity Determining Region
LDLT	Living Donor Liver Transplant
LDs	Lipid Droplets
LED	Ledipasvir
LRT	Locoregional therapy
MC	Monte Carlo
MELD	Model for End-stage liver Disease
MSM	men who have sex with men
NAT	nucleic acid testing
NNPIs	Non-nucleoside polymerase inhibitors
NTRs	Non-Translated Regions
OCLN	Occludin
OPTN	Organ Procurement and Transplantation Network
ORF	Open Reading Frame
PCR	Polymerase chain reaction
PEI	Percutaneous ethanol injection
PET	Positron emission tomography
PWID	people who inject drugs
RBV	Ribavirin

RCT	Randomized control trial
RDTs	Rapid diagnostic tests
RFA	Radiofrequency Ablation
ROS	Reactive Oxygen Species
SD	Standard deviation
SIM	Simeprevir
SOF	Sofosbuvir
SRB 1	Scavenger Receptor B1
SVR	Sustained Virological Response
TACE	Transcatheter arterial chemoembolization
TGF-beta.	Transforming Growth Factor beta
TNM	Tumor, node, and metastases
VIP	Vasoactive Intestinal peptide
WHO	World Health Organization

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Abstract

Background: Significant advances in understanding of the molecular virology, life cycle, and pathogenesis of Hepatitis C Virus (HCV) led to the Direct-Acting Anti-viral (DAA) era of HCV therapy in 2011 **.** It can be expected that rates of HCV-associated hepatocellular carcinoma (HCC) will decrease significantly after the widespread adoption of DAAs, However Hepatitis C patients with cirrhosis who were treated with direct-acting antivirals had increased likelihood of developing HCC**.** HCC was also associated with greater liver stiffness according to transient elastography and lower platelet counts**.** The aim of this study is to investigate incidence of HCC in Egyptian HCV patients in whom other predominant HCV genotypes are prevalent and different treatment protocols followed.

Methods: This was a retrospective study including 400 chronic HCV patients who were following up their medical condition at Kobri El-Koba Military Hospital hepatology outpatient clinic from January 2018 to September 2019. Patients were divided into two main equal groups regarding either received HCV direct acting antivirals or not. Incidence of HCC after 18 months of follow up were compared between two groups. Its relation to hepatic fibrosis stage was calculated in both groups.

Results: DAA receiving group had significantly lower incidence of HCC than non DAA receiving group (control group). Eleven patients in DAA receiving group developed HCC (5.5%) compared to twenty-two patients in control group (11%) with P- value 0.04. Although there was no significant difference between two groups regarding pre-treatment prevalence of ascites, splenomegaly, or esophageal varices, DAA receiving group had statistically significant advanced hepatic fibrosis when compared to control group. Before starting treatment, DAA Receiving group shows (4.5% F0, 14% F1, 7% F2, 11.5% F3 and 63% F4) versus (20.5% F0, 14% F1, 18.5% F2, 6.5% F3 and 40.5% F4) in control group with highly significant P value 0.00.

Conclusion: Incidence of HCC decreased significantly after DAA in chronic HCV patients. Decreased incidence occurred despite advanced hepatic fibrosis in this group of patients.

Key words: Hepatocellular carcinoma- Direct acting antivirals - Hepatitis C virus