# PREVALENCE OF HEPATOCELLULAR CARCINOMA AMONG HEPATIC PATIENTS IN DAMIETTA GOVERNORATE IN COMPARISON TO AIN SHAMS UNIVERSITY HOSPITAL.

**THESIS**

Submitted for partial fulfillment of master degree in

**Internal medicine**

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2013

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# List of Abbreviations

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| **AASLD** | American Association of Study of liver Disease. |
| **AFB** | Aflatoxin B. |
| **AFP** | Alpha-fetoprotein |
| **ALT** | Alanine aminotransferase. |
| **ASUH** | Ain Shams university Hospital. |
| **BCLC** | Barcelona Clinic Liver Cancer |
| **CHB** | Chronic hepatitis B**.** |
| **CLD** | Chronic liver disease |
| **CLIP** | Cancer of liver Italian Program. |
| **CT** | Computerized Tomography. |
| **CUPI** | Chinese University Prognostic Index. |
| **DCP** | Des-gamma carboxy prothrombin. |
| **DEB** | Drug-elluting bead. |
| **DM** | Diabetes Mellitus |
| **DNA** | Deoxyribonucleic acid. |
| **EUS** | Endoscopic ultrasound**.** |
| **FDA** | Food and drug administration. |
| **FDG** | Fluorodeoxyglucose. |

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|---|---|
| **FNA** | Fine needle aspiration**.** |
| **GCP3** | Glypican -3. |
| **H.H** | Hemochromatosis |
| **HB IG** | Hepatitis B immunoglobulin**.** |
| **HBeAg** | Hepatitis B E Antigen |
| **HBsAg** | Hepatitis B surface Antigen |
| **HCC** | Hepatocellular carcinoma |
| **HCV** | Hepatitic C virus. |
| **HGF** | Hepatocyte growth factor. |
| **IDU** | Injection drug users. |
| **IFN** | Interferon. |
| **IGF-1** | Insulin like growth factor -1. |
| **JIS** | Japanese integrated system. |
| **MOH** | Ministry of Health |
| **MRI** | Magnetic resonance imaging. |
| **NAFLD** | Non alcoholic fatty liver disease |
| **NASH** | Non alcoholic steatohepatitis. |
| **NCR** | National cancer registry |
| **NUCs** | Nucleosides |
| **OR** | Odd ratio |
| **Peg IFN** | pegylated interferon. |

| | |
|---|---|
| **PVT** | Portal vein thrombosis. |
| **RE** | Radio-embolization |
| **RFA** | Radiofrequency ablation. |
| **SGPC** | Soluble Glypican -3. |
| **SVR** | Sustained virological response. |
| **TACE** | Trans-arterial chemoembolization |
| **TAE** | Trans-arterial embolization. |
| **TNM** | Tumor Lymph Nodes Metastasis**.** |
| **UNOS** | United network of Organ sharing. |

# ACKNOWLEDGEMENT

*All gratitude is due solely to Allah. Exclusive of all those who might be worshipped besides Him, for the inestimable blessing which He has bestowed upon His slaves.*

*I would like to express my endless gratitude and appreciation to* ***Prof. Dr. AHMED SHAWKY ELSAWAPY*** *Professor of internal medicine, Ain Shams University for giving me the honor of working under his supervision.*

*My deep thanks are to* ***Prof. Dr. AZZA EMAM MOHAMMED*** *Professor of internal medicine, Ain Shams University and to* ***Dr. MAHA MOHSEN MOHAMMED*** *lecturer of internal medicine, Ain Shams University for their valuable guidance during the whole period of the study.*

# Introduction and Aim of the Work

# INTRODUCTION

Hepatocellular carcinoma (HCC) is one of the most common malignancies associated with poor prognosis **(Elzayadi et al., 2005).** HCC is the third leading cause of cancer mortality worldwide **(Sean et al., 2009)** and the ninth leading cause of cancer deaths in the United States (**Altekruse et al., 2009)**. Its incidence is increasing worldwide ranging between 3% and 9% annually **(Elzayadi et al., 2005)**. The estimated incidence of new cases is about 500,000 -1,000, 000 per year, causing 600, 000 deaths globally per year **(Gomaa et al., 2008)**. HCC is more prevalent in men than in women which may be at least in part explained by differences in exposure to risk factors **(Elzayadi et al., 2005)**.

The major clinical risk factor for the development of HCC is liver cirrhosis since 70-90% of HCCs develop into a cirrhotic liver **(Brechot, 2004)**. Coexistence of etiologies, such as hepatitis B virus (HBV) and HCV infection, HBV infection and aflatoxin B1, HBV/HCV infection and alcohol or diabetes mellitus, or HCV infection and liver steatosis increases the relative risk of HCC development **(Hassan et al., 2002).** There is evidence that HBV and possibly HCV under certain circumstances play an additional direct role in the molecular pathogenesis of HCC **(Block et al., 2003).**

In Egypt, HCC was reported to account for about 4.7% of chronic liver disease (CLD) patients **(Elzayadi et al., 2005)**. HCC is the second most frequent cause of cancer incidence and mortality among Egyptian men. Hospital based studies from Egypt have

reported an increase in the relative frequency of all liver-related cancers in Egypt from 4 % in 1993 to 7.3% in 2003 **(Elizabeth et al., 2009).**

# AIM OF THE WORK

The aim of the work is to estimate the prevalence of HCC among hepatic patients in Damietta Governorate in comparison to Ain Shams university hospital (ASUH).

# Review of Literature

# Epidemiology

Liver cancer is the fifth most frequently diagnosed cancer worldwide, and is the second leading cause of cancer-related death **(Jemal et al., 2011)**.Almost 80 percent of cases are due to underlying chronic hepatitis B and C virus infection**(Perzetal, 2006).**

## Geographic variation:

The incidence of HCC varies widely according to geographic location **(Jemel et al., 2011).**

1)-***High-incidence regions*** (more than 15 cases per 100,000 populations per year) include sub-Saharan Africa, the People's Republic of China, Hong Kong, and Taiwan. The age-standardized incidence in China is 52.1 per 100,000 persons per year, Melanesia 25 per 100,000, middle Africa 41.2 per 100,000, eastern Africa 29.7 per 100,000, and western Africa 20.9 per 100,000 **(Parkin et al., 2005)**.

2**)**-***Intermediate-incidence areas*** ( more than five per 100,000 persons per year) occur in western Asia, Central America, the Caribbean, eastern, and southern Europe, Romania, Peru, Czechoslovakia, Poland, and Russia **( Bosch et al., 2004)**.

3)-***low-incidence areas*** (with fewer than three cases reported per 100,000 populations per year) occur in North and South America, most of Europe, Australia and parts of the Middle East. However, the incidence in the United States has increased during the past two