

# **Survival Analysis and Prognostic Factors in Egyptian Patients with Hepatocellular Carcinoma**

*Thesis*

Submitted for partial fulfillment  
of the Master Degree in Internal Medicine

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2011**



﴿قَالُوا سُبْحٰنَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا<sup>ص</sup>

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ﴾

سورة البقرة  
آية (٣٢)

سورة البقرة الآية (٣٢)

## ***Acknowledgment***

First of all, I would like to express deep gratitude to **Allah** for his care & generosity throughout my life.

I would like to express my sincere appreciation to **Prof. Nehad Ahmed Amer** Professor of internal medicine Ain Shams University for her overwhelming support that has been of great help through this work.

I am truly grateful for **Prof. Azza Emam Mohamed** Professor of internal medicine Ain Shams University for her keen supervision and guidance that helped me to perform this work.

I am very thankful for **Dr.Maha Mohsen Mohamed Kamal El-Dein** lecturer of internal medicine Ain Shams University for her great support and effort through the whole work.



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## *List of abbreviations*

<b>HCC</b>	Hepatocellular carcinoma.
<b>HBV</b>	Hepatitis B virus.
<b>HCV</b>	Hepatitis C virus.
<b>UK</b>	United Kingdom.
<b>USA</b>	United States of America.
<b>CLD</b>	Chronic liver disease.
<b>TNM</b>	Tumor node metastasis.
<b>AFP</b>	Alpha feto protein.
<b>CLIP</b>	Cancer of the Liver Italian Program.
<b>BCLC</b>	Barcelona Clinic Liver Cancer.
<b>LCSGJ</b>	Liver Cancer Study Group of Japan.
<b>US</b>	Ultrasonography.
<b>CUPI</b>	Chinese University Prognostic Index.
<b>JIS</b>	Japan Integrated Staging.
<b>DCP</b>	Des-carboxyprothrombin.
<b>AFP-L3</b>	Lens culinaris agglutinin-reactive alpha feto protein.
<b>bm-JIS</b>	Biomarker combined JIS.
<b>BALAD</b>	Bilirubin, Albumin, AFP-L3, AFP, DCP staging.
<b>ALCPS</b>	Advanced Liver Cancer Prognostic System.
<b>CT</b>	Computerized Tomography.
<b>MRI</b>	Magnetic resonance imaging.
<b>TACE</b>	Transarterial chemoembolisation.
<b>OLT</b>	Orthotropic liver transplantation.
<b>MELD</b>	Model for End Stage Liver Disease.
<b>INR</b>	International randomized ratio.
<b>UNOS</b>	United network for organ sharing.
<b>RFA</b>	Radio frequency ablation.
<b>PEI</b>	Percutaneous ethanol injection.
<b>Nd-YAG</b>	Neodymium yttrium aluminium garnet.
<b>PVA</b>	Poly vinyl alcohol.
<b>DC Bead</b>	Drug eluting beads.
<b>AMPS</b>	2-acrylamido-2-methylepropane sulphonic acid.
<b>RCT</b>	Randomized controlled trial.
<b>RILD</b>	Radiation induced liver disease.
<b>EGFR</b>	Epidermal growth factor receptor.

<b>MAP</b>	Mitogen activated protein.
<b>IGF</b>	Insulin growth factor.
<b>mTOR</b>	Mammalian target of rapamycin.
<b>VEGF</b>	Vascular endothelial growth factor.
<b>PFS16</b>	Progression free survival at 16 weeks.
<b>DCR</b>	Disease control rate.
<b>PDGFR</b>	Platelet derived growth factor receptor.
<b>PI3K</b>	Phosphatidyle inositol-3-kinase.
<b>IGFR</b>	Insulin-like growth factor receptor.
<b>HGF</b>	Hepatocyte growth factor.
<b>S-Phase</b>	Synthetic phase fraction.
<b>G0/G1</b>	Pre synthetic growth phase.
<b>G2+M</b>	Post synthetic and mitotic phase.
<b>PVT</b>	Portal vein thrombosis.

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## Introduction

Hepatocellular carcinoma (HCC) is a primary malignancy of hepatocytes, generally leading to death within 6-20 months. It is the fifth most common cancer worldwide, and the fourth most common cause of cancer related death (**Parkin et al., 2001 and Bosch et al., 2004**).

HCC frequently arises in the setting of cirrhosis, appearing 20-30 years following the initial insult to the liver, in general ,cirrhosis of any etiology is the major risk factor for HCC (**Adami, 2008**) about 80 % of patients with newly diagnosed HCC have preexisting cirrhosis (**El-Serag, 2000**). However, 25% of patients have no history or risk factors for development of cirrhosis.

In Egypt hepatitis virus C (HVC) and hepatitis virus B (HVB) are the major risk factors of cirrhosis (**Hassan et al., 2001**).HCC is considered the second cause of cancer mortality among Egyptian after cancer bladder (**Soliman et al., 1999**).

Cirrhosis underlies the neoplasm in most cases and has major impact on the prognosis of the patients with HCC accordingly, different prognostic system assessing liver function and tumor stage have been developed such as the Okuda staging (**Okuda et al; 1985**).

## Aim of the Work

The aim of this study is to statistically analyze current survival rates for Egyptian patients diagnosed with (HCC).

## Subjects & Methods

***Type of the study: retrospective analysis.***

Study population: Data of Egyptian patients presented to El-menofia national liver institute and diagnosed as hepatocellular carcinoma (HCC) from January 1990 to December 2009.

***Methods: patients' records review.***

An extraction sheet will be designed to include the following data to be recorded from the patients' files & registry:

- Age.
- Sex.
- Clinical data including symptoms & signs of liver cell failure.
- Causes of liver cirrhosis or other risk factors for development of HCC.
- Laboratory data including CBC, coagulation, liver and renal profiles.
- Alpha feto-protein.
- Spiral CT results.
- Pathological staging of HCC.
- Any therapy given or intervention done to the patients.

Clinical parameters, treatment received will be analyzed and survival rate will be analyzed and survival will be determined from the time of initial diagnosis till death or transplantation.

## References

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# *Introduction*

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## **Introduction**

Liver cancer rapidly reduces quality of life and typically causes death 6 months – 1 year from diagnosis. Globally, it is the fifth leading cause of cancer and third leading cause of cancer death.

This cancer varies widely in incidence throughout the world with rising incidence in Egypt [1].

Prior to the introduction of hepatitis B virus (HBV) was generally high, with developing countries sharing the greatest burden, consequently HBV was the dominant etiological factor in development of hepatocellular carcinoma (HCC).

This is largely still true in Egypt because vaccination programs were not started until the 1980s [2].

More recently, hepatitis C virus (HCV) has begun to eclipse HBV in incidence in many countries throughout North America, Europe, and Middle East. The rate of HCV in Egypt is among the highest in the world.

Hospital-based studies from Egypt have reported an overall increase in the relative frequency of all liver related cancers in Egypt (>95% as HCC) from approximately 4% in 1993 to 7.3% in 2003 [3].

As a result the present study aimed to give an idea about survival rate and prognostic factors of HCC in Egyptian patients.



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## *Aim of the Study*

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