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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{قَالُواْ سُبْحَٰنَكَ لَا عِلْمَ لَنَآ إِلَّا مَا عَلَّمْتَنَآ ۖ إِنَّكَ أَنتَ ٱلْعَلِيمُ ٱلْحَكِيمُ}

صَدَقَ اللَّهُ الْعَظِيمُ

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List of abbreviations

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

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

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Introduction

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.

Aim of the Study