Various Surgical Modalities in Hepatocellular Carcinoma

Essay

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الطرق الجراحية المتنوعة فى علاج سرطان الكبد

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﴿قالوا سبحانك لا علم لنا الا ما

علمتنا انك انت العليم الحكيم﴾

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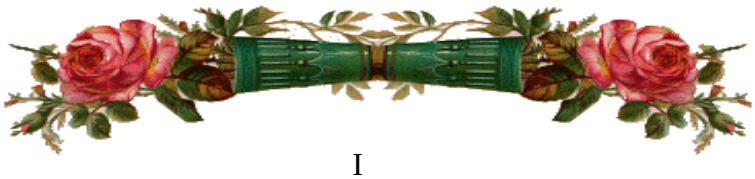
@ **Mohamed Mohamed M. El-Sekily**



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AASLD	American Association for the Study of Liver Diseases
AFP	Alpha feto-protein
AJCC	American joint committee on cancer
ALF	Acute liver failure
ALF	Alpha-L-fucosidase
ALT	Alanine amino-transferase lectin
AST	Aspartate amino-transferase
BCLC	Barcelona Clinic Liver Cancer
BRM	Biological response modifier
BSA	Body surface area
CA 50	Carcinogenic antigen 50
CA 125	Carcinogenic antigen 125
CC	Cholangiocarcinoma
CEA	Carcinoembryonic antigen
CEUS	Contrast-enhanced sonography
CLIP	Cancer of the Liver Italian Program
CLT	Cadaveric Liver Transplantation
Co A	Coenzyme A
CT	Computed tomography
CTA	Computed tomography with hepatic arterial injection
CTAP	Computed tomography during arterial portography
CTP	Child–Turcotte–Pugh
3D-CRT	Three-dimensional conformal radiation therapy
DGCP	Des-gamma-carboxyprothrombin
DNA	Deoxyribonucleic acid
EASL	European Association for the Study of the Liver
Ery-1	Erythropoiesis-associated antigen

FDG	Fluorodeoxyglucose
FDG PET	Fluorodeoxyglucose positron emission tomography
F-FDG PET	Fluorine fluorodeoxyglucose positron Emission tomography
FLC	Fibrolamellar carcinoma
FLR	Future Liver Remnant
FNA	Fine needle aspiration
FNH	Focal nodular hyperplasia
GGT	Gamma-glutamyl transferase
GGT mRNA	Gamma-glutamyl transferase mRNA
GPC3	Glypican-3
HBV	Hepatitis B virus
Hbs Ag	Hepatitis B surface antigen
HCC	Hepatocellular carcinoma
HCCs	Hepatocellular carcinomas
HCV	Hepatitis C virus
HGF	Hepatocyte growth factor
HiTT	Heat induced thermotherapy
HIV	Human immuno-deficiency virus
HR	Hepatic Resection
HSEC	Hepatic sinusoidal endothelial cell
HSP70	Heat shock protein 70
hTERT	Human telomerase reverse-transcriptase
^{131}I	Iodine-131
ICD	International Classification of Diseases
ICG	Indocyanine green
ICG R15	Removal rate of Indocyanine green at 15 min
ICG R max	Maximal removal rate of Indocyanine green
IGF-2	Insulin-like growth factor-2

IL-8	Interleukin-8
IMRT	Intensity-modulated radiation therapy
IMV	Inferior mesenteric vein
INR	International normalized ration
IOUS	Intraoperative Ultrasonography
IVC	Inferior vena cava
LBF	Liver blood flow
LCA	Lectin lens culinaris agglutin
LDLT	Living Donor Liver Transplantation
LiTT	Laser induced thermotherapy
LR	Liver Resection
LT	Liver Transplantation
LUS	Laparoscopic contact Ultrasonography
MCT	Microwave thermal ablation
MEGX	Monoethylglycinexylidide
MELD	Model for End-Stage Liver Disease
MMF	Mycophenolate mofetil
MRI	Magnetic Resonance Imaging:
m RNA	messenger Ribonucleic acid
NO	Nitric oxide
OLT	Orthotopic Liver Transplantation
PaO2	Partial pressure of Oxygen
PaCo2	Partial pressure of carbon dioxide
PAI	Percutaneous acetic acid injection
PAS	Periodic Acid-Schiff
PEI	Percutaneous ethanol injection
PET	Positron emission tomography
PIAF	Cisplatin/interferon α2b/doxorrubicin/fluorouracil
PST	Performance status

RCT	Randomized control study
RF	Radiofrequency
RFA	Radiofrequency ablation
RFTA	Radiofrequency thermal ablation
RNA	Ribonucleic acid
RSLT	Reduced Size Liver Transplantation
RT-PCR	Reverse-transcriptase polymerase chain reaction
SCT	Spiral computed tomography
siRNA	Small interfering Ribonucleic acid
SRTR	Scientific Registry of Transplant Recipients
STK6	Serine/threonine kinase 15
TACE	Transarterial chemoembolization
TAE	Transarterial embolization
Tc-GSA	Technetium 99m- galactosyl human serum albumin
TERT	Telomerase reverse-transcriptase
TGF	Transforming growth factor
TIPS	Transjugular intrahepatic portosystemic shunts
TLV	Total Liver Volume
TNM	Tumor-node-metastasis
TSGF	Tumor-specific growth factor
UCSF	University of California at San Francisco
UDP	Uridine diphospho
UDPGA	Uridine diphosphoglucuronic acid
UK	United Kingdom
UNOS	United Network for Organ Sharing
US	Ultrasound
VEGF	Vascular endothelial growth factor
WD	Well differentiated
^{90}Y	Yttrium-90

Introduction

Hepatocellular carcinoma (HCC) is a highly malignant tumour with a very high morbidity and mortality, carrying a poor prognosis and presenting considerable management ***(Qin and Tang, 2002).***

Hepatocellular cancer is one of the most common cancers worldwide, with an estimated 500,000 to 1,000,000 new cases annually. It is more common in underdeveloped countries, with incidences of 100 to150 per 100,000 population in parts of Asia and sub-Saharan African ***(Bosch and Munozn, 1991).***

The most important risk factors for development of (HCC) are previous infection with hepatitis B virus (HBV), hepatitis C virus, or alcoholic cirrhosis ***(Okuda, 1992)***.

Hepatocellular cancer typically produces nonspecific symptoms such as jaundice, anorexia weight loss, malaise, and upper abdominal pain. The level of alpha-fetoprotein (AFP)is elevated in approximately 60%to90% of patients and varies by geographic distribution ***(Vauthey et al., 2002).***

More than 90% HCCs occur in the cirrhotic livers ***(LIovet et al., 1999).***