

# IMAGING OF SMALL HEPATOCELLULAR CARCINOMA

Essay

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

« قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا  
عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ »

صدق الله العظيم  
« سورة البقرة (٣٢) »



**Dedicated to :**

***My Parents***

**For their endless support and love  
that made me accomplish my goals,**

***My Husband***

**For his sincere devotion**

**&**

***My Son***

## ***ACKNOWLEDGEMENT***

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## **ERRATA**

<b><u>PAGE</u></b>	<b><u>ERROR</u></b>	<b><u>CORRECTION</u></b>
2	Fibours	Fibrous
41	Comon	Common
51	Of	Or
69	Strucures	Structures
70	Oblique ----- liver	Omit
72	Evalauted	Evaluated
78	Catheter	Catheter
80	Superselelctive	Superselective
87	Stimulate	Simulate

## LIST OF ABBREVIATIONS

AFP	Alfa fetoprotein
Ao	Aorta
CBD	Common bile duct
cm	centimeter
CNR	Contrast to noise ratio
COPE	Cardiac ordered phase encoding
CT	Computed tomography
CTHA	CT during hepatic arteriography
CTAP	CT during arterial portography
D	Diaphragm
diam.	diameter
Fig.	Figure
Ga	Gallium
GB	Gallbladder
Gd-DTPA	Godolinium diethylenetriaminepentaacetic acid
GE	Gradient echo
HCC	Hepatocellular carcinoma
hr	hour
HU	Hounsefield Unit
HBs Ag	Hepatitis B surface antigen
HBV	Hepatitis B virus
IVC	inferior vena cava
IR	Inversion recovery
In	Indium
in	inch
K	Kidney

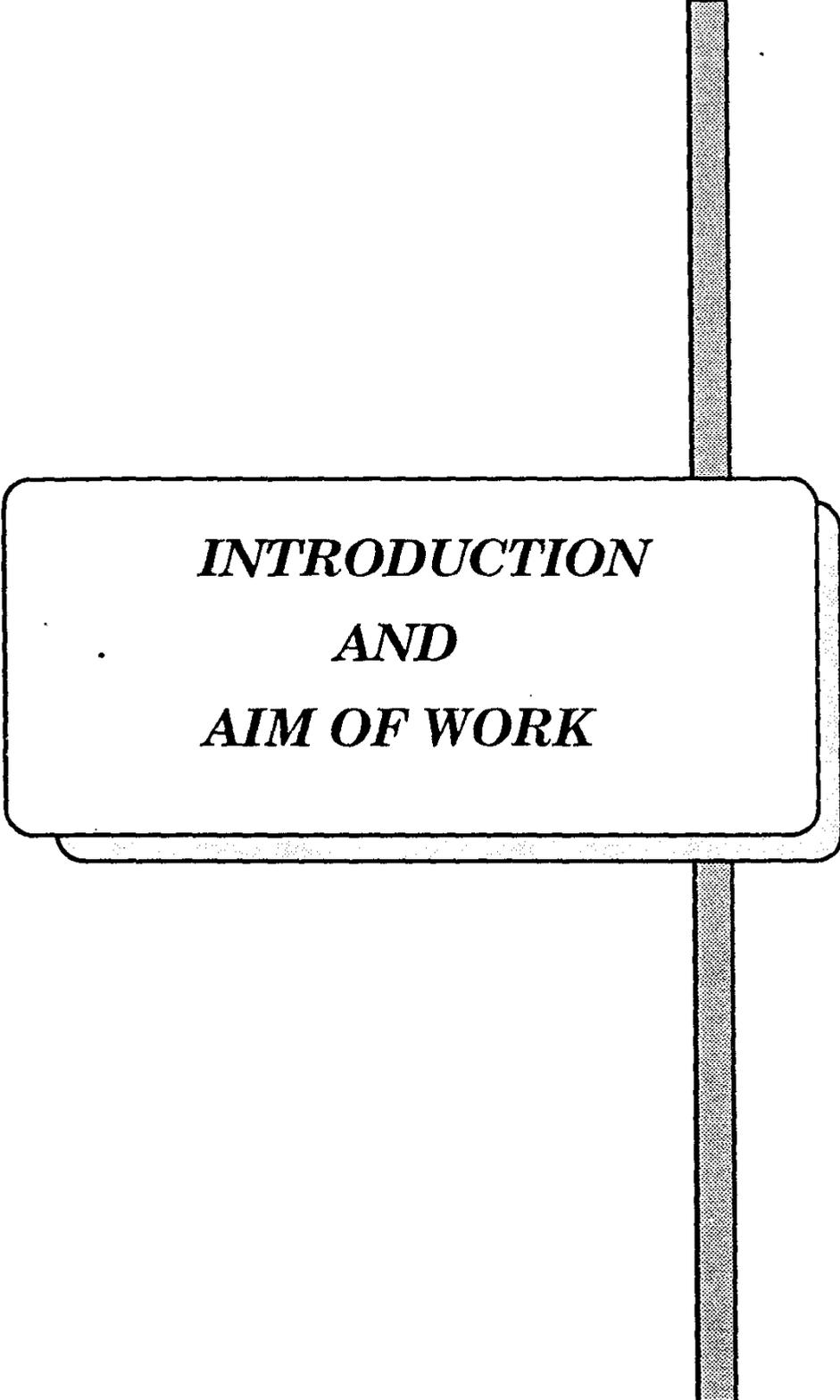
KeV	Kiloelectron volt
Kg	Kilogram
L	Liver
MAST	Motion Artifact Suppression Technique
MBq	Megabequarel
mCi	milli Curie
MHz	Mega Hertz
min.	minute
ml	milliliter
m m	millimeter
Mn DPDP	Manganese Dipyridoxal diphosphate
MRI	Magnetic Resonance Imaging
Msec	millisecond
Pv	Portal vein
ROPE	Respiratory ordered phase encoding
S	Spleen
SE	Spin-echo
SMA	Superior mesenteric artery
SPECT	Single Photo Emission Computed Tomography
SPIO	Superparamagnetic iron oxide
T	Tesla
Tc	Technetium
TE	echo time
TI	inversion time
TR	repetition time
US	ultrasound

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***INTRODUCTION  
AND  
AIM OF WORK***

## **INTRODUCTION AND AIM OF WORK**

Hepatocellular carcinoma (HCC) is one of the most common malignant tumours, and the prognosis is extremely poor because of the difficulty in early detection and its frequent association with cirrhosis. Because surgical resection is the most effective treatment, the detection of small hepatocellular carcinoma is important for determination of resectability. The recent advances in liver imaging techniques such as scintigraphy, sonography, computed tomography, angiography and magnetic resonance imaging make it possible to detect small HCCs and asymptomatic HCC. (Choi et al, 1989).

The aim of this work is to study the diagnostic accuracy and limitation of these imaging methods and their contributions to the evaluation of small HCC.



***Normal Anatomy  
of the Liver***