

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

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**Transient Hepatic Echogenicity Difference
on Contrast Enhanced Ultrasonography**

Essay

Submitted for Partial Fulfillment of Master Degree

In Radio-Diagnosis

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Table of abbreviations

AFP	Alpha Foto Protein
C T	Computerized tomography
CEUS	Contrast Enhanced ultrasonography
EHE	Epithelial Hemangio Endothelioma
FNH	Focal Nodular Hyperplasia
FLL	Focal Liver Lesion
HCC	Hepatocellular Carcinoma
MI	Mechanical index
MRI	Magnetic Resonance Imaging
THAD	Transient Hepatic Attenuation Difference
THED	Transient Hepatic Echogenicity Difference
THID	Transient Hepatic Intensity Difference
UCA	Ultrasound Contrast Agent
US	Ultrasonography

Introduction

The liver is the organ most frequently involved by metastasis from other sites in addition to many benign lesions such as hemangiomas and focal nodular hyperplasia. Several imaging modalities and diagnostic protocols have been used in attempts to optimize detection of focal liver lesions (*Liovet et al, 2003*).

The liver has a dual blood supply (70% portal vein, 30% hepatic artery). The arterial and portal venous supplies to the liver are not independent systems. There are several communications between the vessels, including transsinusoidal, transvasal & transplexal routes (*Kim et al, 1998*).

When vascular compromise occurs, there are often changes in the volume of blood flow in individual vessels and even in the direction of blood flow. There is a compensatory relationship between the two arterial and portal in flow i.e. arterial flow increases when

portal flow decreases .These perfusion disorders can be detected with helical C T and are generally seen as an area of high attenuation on hepatic arterial phase images that returns to normal on portal venous phase images ; and are hence known as Transient hepatic attenuation differences (*Quiroga et al, 2001*).

Recently contrast enhanced ultrasonography has been used to report and analyze transient hepatic echogenicity difference due to perfusion changes which are equivalent to transient hepatic attenuation difference seen on CT (*Catalano et al, 2007*).

Knowledge of this Transient Hepatic Echogenicity Difference phenomenon may be relevant for avoiding incorrect image interpretation or incorrect tumor size measurement (*Catalano et al,2007*).

Aim of work

To show the role of contrast
enhanced ultrasonography in
different hepatic focal lesions and to
Illustrate Transient Hepatic
Echogenicity Difference On Contrast
Enhanced Ultrasonography.