شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

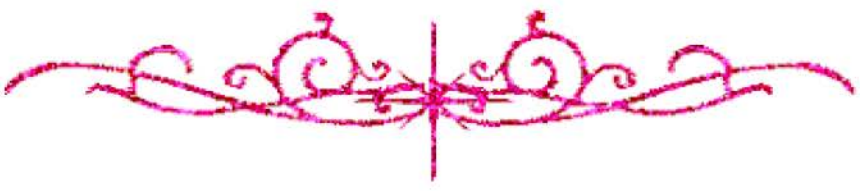
نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة



بالرسالة صفحات لم ترد بالأصل

ROLE OF DUPLEX-DOPPLER SONOGRAPHY IN RENAL HAEMODYNAMIC CHANGES IN LIVER DISEASES

Thesis
Submitted for partial fulfillment of M.Sc. Degree
In TROPICAL MEDICINE

BY

Sherif Ibrahim Abbass
(M.B., B.Ch.)

Supervised by

Prof. Dr. SALAH IBRAHIM SAIF EL-DIN
Professor of Tropical Medicine,
Faculty of Medicine, Ain Shams University.
and Ex-head of Tropical Medicine Department,
Liver Institute, Minufiya University

Prof. Dr. HANY SAID SABRY
Professor and Head of Tropical Medicine Department,
Faculty of Medicine And Liver Institute, Minufiya University.

Dr. TARY ABD-ELHAMID SALMAN
Lecturer of Tropical Medicine,
Liver Institute, Minufiya University.

FACULTY OF MEDICINE
MINUFIYA UNIVERSITY
2000

INTRODUCTION

ACKNOWLEDGMENTS

Before all, I should express my deep thanks to GOD, without his great blessings I would never accomplish my work.

I am deeply obliged to **Prof. Dr. Salah Ibrahim Saif El-Din,** Professor of Tropical Medicine, Faculty of Medicine, Ain Shams University, without his vast experience, knowledge, and continuous meticulous guidance, this work would not have been possible. I stand in great debt for all what he did.

I also feel deeply thankful to **Prof.Dr. Hany Said Sabry,** Professor and Head of Tropical Medicine Department, Faculty of Medicine, Menoufiya University, and Head of Tropical Medicine Department, Liver Institute, Menoufiya University for his expert guidance, for his illuminating remarks, and for his sympathetic attitude, without his help, this work would have never came to light.

I am also grateful to **Dr. Tary Abd El-Hamid Salman,** Lecturer of Tropical Medicine, Liver Institute, Menoufiya University, with her critical mind, brought out the final points of my research and opened new paths of thought which were formerly closed, her contribution is without doubt, great.

CONTENTS

INTRODUCTION

Renal disorders complicating liver disease are frequent findings due to either extrahepatic causes like intoxication and circulatory dysfunction, diseases that simultaneously affect both the liver and kidney like multisystemic or viral diseases or other clinical entities in which the manifestations of renal disease are consequences of hepatic disorders as in liver cirrhosis or in fulminant hepatitis (Schmidt, 1983).

Hepatorenal syndrome is a severe form of kidney dysfunction and commonly developed in patients with established liver disease. It is defined as unexplained kidney failure in patients with liver disease which does not have clinical, laboratory, or anatomic evidence of other known causes of kidney failure (Platt et al., 1994). The progressive renal dysfunction is generally considered to be functional in nature due to absence of consistent pathologic changes. The kidney failure can be corrected after liver transplantation, not only this but also the kidney in patients with the hepatorenal syndrome can be successfully transplanted into patient with normal livers (koppel et al., 1996).

Renal haemodynamic changes begins early in the course of liver disease (Papadakis and Arieff, 1987). The hallmark change is intense intra-renal vasoconstriction (Gentilini et al., 1980).

In hepatorenal syndrome, renal arterial vasoconstriction occurs causing reduced renal blood flow with marked decrease in renal perfusion leading to functional renal failure (Wilkinson et al., 1990).

Duplex ultrasonography has been demonstrated to be an accurate and reliable technique in liver diseases and in detection of early kidney dysfunction (Maroto et al., 1994 and Colli et al., 1993). An elevated resistive index has been observed in various conditions associated with elevated vascular resistance, therefore, duplex-Doppler ultrasonography may also be of value in the diagnosis of functional kidney failure in cirrhosis which is due to renal arteriolar vasoconstriction (Platt et al., 1989).

AIM OF THE WORK

AIM OF THE WORK

The aim of this work is to assess the value of duplex Doppler ultrasonography:

1- In detecting liver disease related kidney dysfunction.

2- Also to predict renal dysfunction in some cases of chronic liver diseases.

REVIEW OF LITERATURE

THE RENAL CIRCULATION

I. Blood Supply of the Kidney: (Figure 1)

A- Arterial Supply:

The kidney is supplied by the renal artery, which arises bilaterally from the sides of the abdominal aorta, at the level of the 1st or 2nd lumbar vertebra. Both arteries are frontally covered by the corresponding veins. The right renal artery has an average length of 4.5 cm, and the left artery 4 cm. Their average diameters are: on the right 0.53 cm and on the left 0.55 cm (Graves, 1971).

The renal artery enters the kidney at the hilum, then divides into 2 main branches, anterior and posterior. The anterior main branch further divides into four segmental arteries, which supply the apex of the kidney, the upper and middle segments of the anterior surface and the entire lower pole respectively. The posterior main branch supplies the remainder of the kidney. These segmental arteries are "end arteries", where obstruction of an arterial vessel leads to complete ischemia in the tissue of its area of distribution (Graves, 1971).