شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه 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

شبكة المعلومات الجامعية

بالرسالة صفحات
لم ترد بالأصل


بسم الله الرحمن الرحيم

DIAGNOSTIC EVALUATION OF CHRONIC CHOLESTATIC LIVER DISEASES IN INFANCY AND CHILDHOOD

Thesis

Submitted to the Faculty of Medicine

University of Alexandria

In partial fulfillment of the

Requirements for the degree of

DOCTOR OF PAEDIATRICS

By

Manal Mohamed Aly Hasan Abd-Elgawad

MBBCH Alex, MM Paed Alex

Faculty of Medicine

Alexandria University

2003

SUPERVISORS

Prof. Dr. Ekram M. H. Madina

Professor of Paediatrics

Faculty of Medicine

Alexandria University

Prof. Dr. Mohamed Naguib Zaki Massoud

Professor of Paediatrics

Faculty of Medicine

Alexandria University

Prof. Dr. Mona Abd-Elkader Metwali

Professor of Pathology

Faculty of Medicine

Alexandria University

Prof. Dr. Magdy Abd-Elfattah Ramadan

Professor of Paediatrics

Faculty of Medicine

Alexandria University

Prof. Dr. Akram Abd-Elmoneim Deghady

Assistant Professor of Clinical Pathology

Faculty of Medicine

Alexandria University

CONTENTS

ABBREVIATIONS

Alanine aminotransferase	**ALT**
Alkaline phosphatase	**AP**
Alpha 1- antitrypsin	**A1AT**
Aspartate aminotrasferase	**AST**
Biliary atresia	**BA**
Choledochal cyst	**CC**
Cytomegalovirus	**CMV**
Complete blood picture	**CBP**
Direct serum bilirubin	**DSB**
Endoscopic retrograde cholangiography	**ERCP**
Extrahepatic biliary atresia	**ERCP**
Gallbladder	**GB**
Gamma glutamyl transferase	**GGT**
Hydroxyiminodiacetic acid	**HIDA**
Intravenous	**IV**
Magnetic resonance cholangiopancreatography	**MRCP**
Neonatal hepatitis	**NH**
Progressive familial intrahepatic cholestasis	**PFIC**
Paucity of interlobular bile ducts	**PILBD**
Percutaneous transhepatic cholangiography	**PTC**
Prothrombin time	**PT**
Partial thromboplastin time	**PTT**
Triangular cord	**TC**
Total pareteral nutrition	**TPN**
Ursodeoxycholic acid	**UDCA**

ACKNOWLEDGEMENT

First of all, great thanks are due to our **Merciful God** who surrounds us with his benevolence.

Acknowledgement must begin with an expression of my deepest gratitude to my professor ***Dr. Ekram Helmy Madina*** , Professor of Pediatrics , who suggested this topic, for his kindness and great encouragement that she always gave me. Without her supervision, her patience and gratifying scientific help, this work would has not been accomplished.

I would like to express my deepest gratitude to ***my professor Dr. Mohamed Naguib Massoud,*** Professor of Pediatrics, for his meticulous guidance , keen supervision, constructive criticism and unlimited generous efforts. I am most grateful to his valuable help, suggestions, comments and guidance throughout this study.

My grateful appreciation ***to Professor Dr. Mona Abd El-kader Metwaly*** Professor of pathology for her great help and patience in performing the tedious pathological procedures in this work. for great interest she kindly gave to me and to my work.

My thanks to ***Professor Dr. Magdy Abd El-fattah Ramadan***, Professor of pediatrics, for his help in completing the ultrasound procedure in this study.

My deepest thanks to ***Professor Dr.Akram Deghady*** Assistant Professor of Clinical Pathology for his generous valuable help in doing the laboratory investigations of this study.

I am particularly grateful to my ***Professor Dr. Mahrousa Mohamed Khedr*** for her assistance in the development of the initial draft. For her patience, valuable advice and active participation.

My thanks and gratitude are also to ***Professor Dr. Ehab Ibrahim*** for his helpful advice and participation in the preparation of his work.

I also acknowledge the valuable contribution of my ***Professor Dr.Mohei El-kersh who assisted me***. I am most grateful to his valuable help, suggestions, comments and guidance throughout this study.

My gratitude and cordial feelings to my parents, my husband and my brothers for their unlimited kind help.

Introduction

INTRODUCTION

ANATOMY OF THE NORMAL LIVER

a. Gross and surface anatomy:

The liver is the largest gland in the human body; weighs 1500 gram in adult, and accounts for twentieth of the body weight in neonates. It lies in the right upper quadrant of the abdominal cavity extending from the right 5th intercostal space along the midclaviculor line down to or slightly below the costal margin [(1)].

In normal infants and children, the liver span is measured by percussion of the upper border and percussion/palpation of the lower border, and is directly releated to the age of the child [(2)], Table 1.

b. Lobes

The liver is divided into two lobes, right and left by a peritoneal fold "falciform ligament"which connects the liver to the diaphragm and anterior abdominal wall, they are supplied by right and left branches of the portal vein and hepatic artery, and their bile drains into the right and left hepatic duct. The right lobe being about six times the size of the left, it has two small segments; the caudate lobe on the posterior and the quadrate lobe on the inferior surface. The liver is completely covered with peritoneum except for a small bare area on its superior surface where the liver comes into direct contact with the diaphragm. [(1)] The entire liver is covered by a

Age	**Span** (cm)
Birth	5.6-5.9
2 months	5
1 years	6
2 years	6.5
3 years	7
4 years	7.5
5years	8
12years	9

Table 1 : The mean liver span in infants and children

thin connective tissue capsule "Gilsson's capsule" which is just beneath the single layer of the flat peritoneal mesothelial cells, within the interior of the organ, the connective tissue arborizes and provides an internal supporting framework for the hepatic parenchyma and subdivides it into lobules. The term Glisson's capsule is sometimes applied to both the surface capsule and the internal connective tissues. The broad terms portal area, protal canal and portal space are commonly used to designate the interlobular connective tissue which forms the bed of the portal canal and ensheathes the interlobular hepatic artery, portal vein and bile duct- "portal triad". The human liver under normal conditions contains little connective tissue.[3]

c. Vascular supply

The liver has a dual blood supply. The portal vein brings venous blood that has already passed through the capillary bed of the alimentary tract, it carries 75% of the afferent blood volume to the liver, this blood is rich in nutrients and other absorbed substances but relatively poor in oxygen. The second source is the hepatic artery which is a branch of the celiac trunk. It brings well oxygenated blood to the liver[1]. About 1100ml of blood flows from the portal vein and 250ml flows from the hepatic artery into the liver sinusoids each minute. [3]

These vessels enter the liver at the porta hepatis which lies on the inferior surface of the right lobe. Inside the porta hepatis the portal vein divides into right and left branches to the right and left lobes which inturn, divide into smaller interlobular branches that run between the lobules and encircle them and pour their blood at the periphery of the lobules into the sinusoids. The liver sinusoids direct their blood centrally to the central veins which leave the lobules forming sublobular veins