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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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EVALUATION OF SOME DIAGNOSITC AND THERAPEUTIC ASPECTS OF PORTAL HYPERTENSION IN CHILDREN

Thesis

Submitted in Partial Fulfillment of the M.D. Degree in Pediatrics

By

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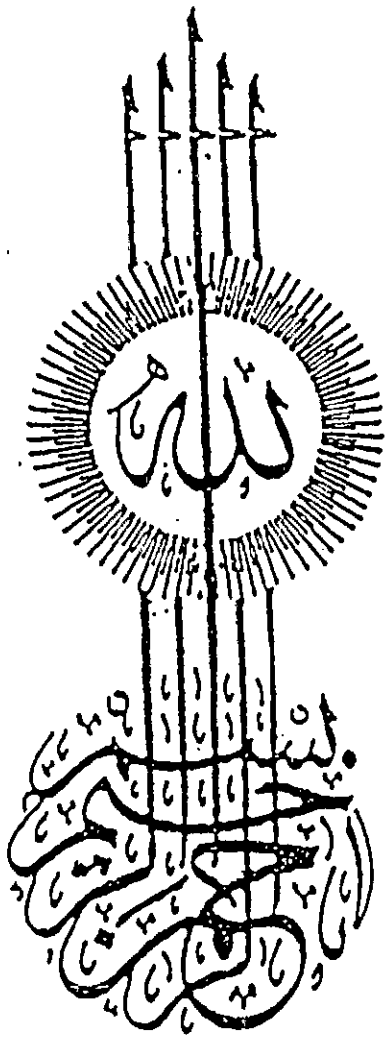

قالوا سبحانك

لا علم لنا إلا ما علمتنا
إنك أنت العليم الحكيم

صدق الله العظيم

(البقرة ٣٢)

ABBREVIATIONS

PH= Portal Hypertension
PVS=Portal Venous System
PVF= Portal Venous Flow
PVP= Portal Venous Pressure
PV= Portal Vein
SV= Splenic Vein
SMV= Superior Mesenteric Vein
SMA= Superior Mesenteric Artery
IVC=Inferior Vena Cava
WHVP=Wedged Hepatic Venous Pressure
HVPG= Hepatic Venous Pressure Gradient
US= Ultrasonography, Ultrasound, Ultrasonic
PVT= Portal Vein Thrombosis
PHG= Portal Hypertensive Gastropathy
BFV=Blood Flow Velocity
GIT=Gastrointestinal Tract
IV= Intravenous
MCL= Mid Clavicular Line
ML = Mid Line
LS=Longitudinal Section
TS=Transverse Section
Bilh.= Bilharzial
ALT=Alanine Aminotransferase
AST=Aspartate Aminotransferase
PT=Prothrombin Time
R.B.Cs= Red Blood Corpuscles
W.B.Cs=White Blood Cells
Fig.= Figure
Tab.=Table

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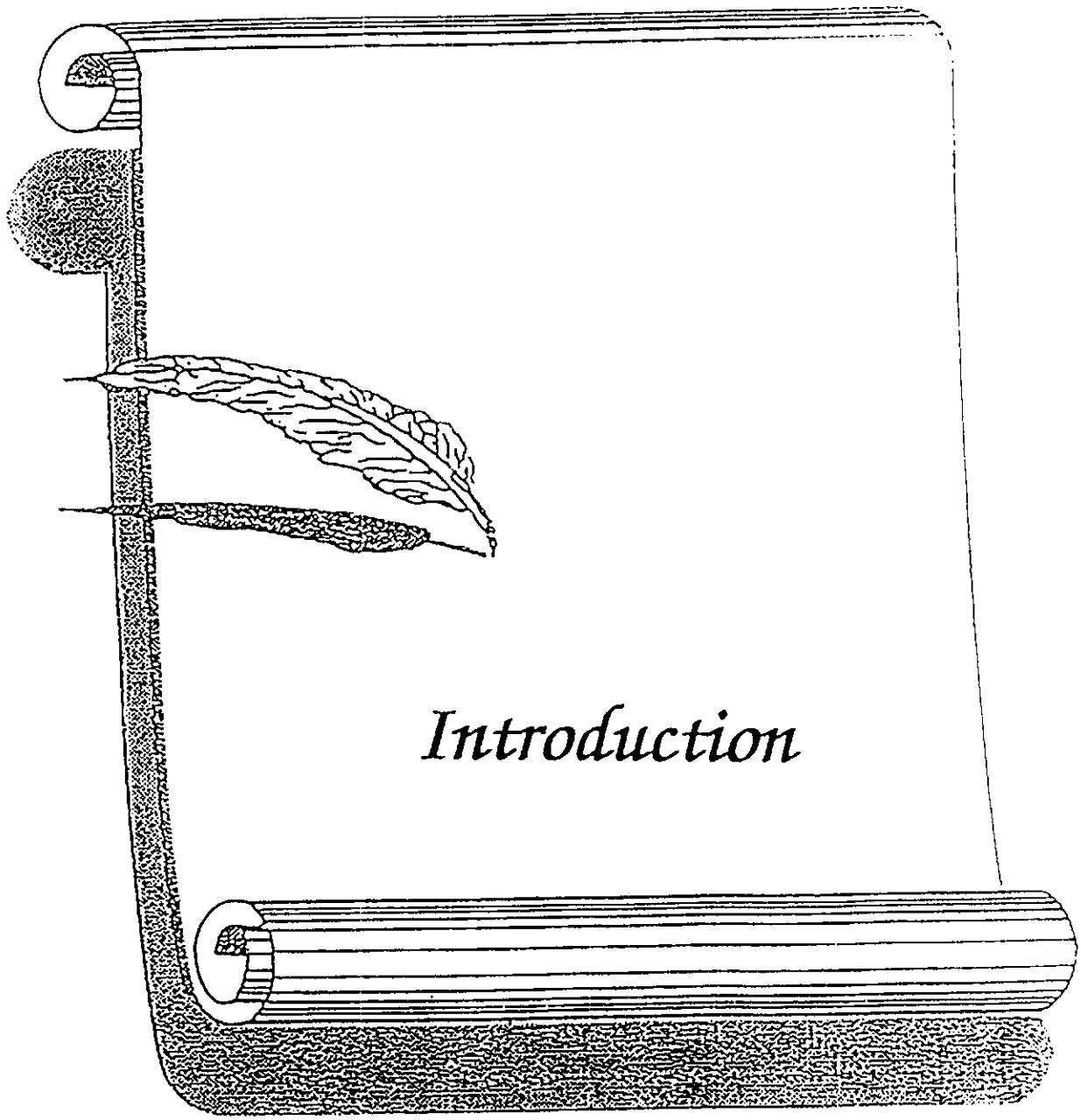


Introduction

INTRODUCTION

Portal hypertension in children is a serious problem because it is an important cause of gastrointestinal bleeding especially from esophago-gastric varices (1).

The documentation of portal hypertension and the resulting collaterals by invasive and time-consuming procedures such as direct venoporto-graphy or arteriography can result in significant morbidity among patients with abnormal coagulation tests and other medical problems (2).

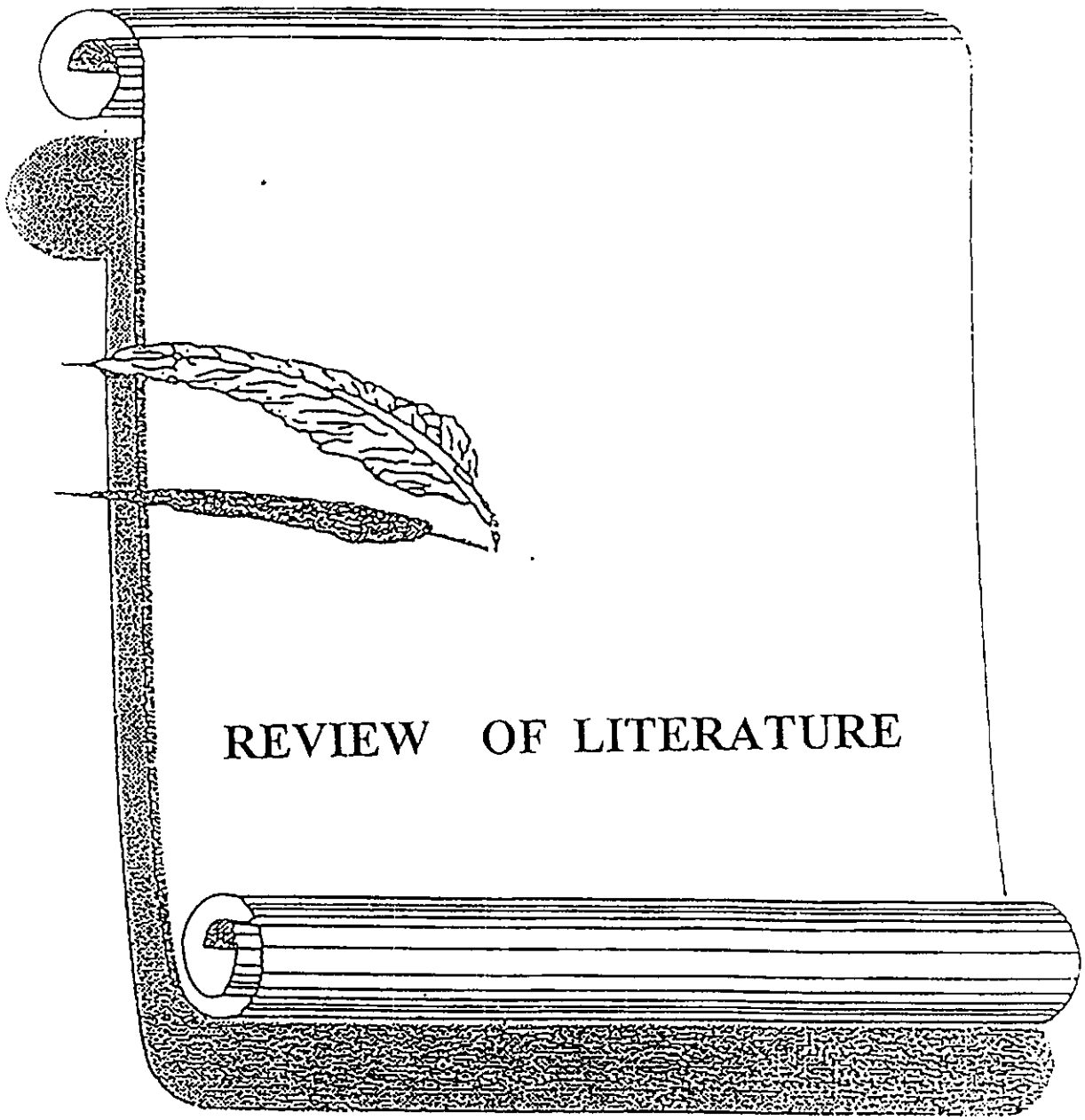
The hazards of such invasive investigations have stimulated some investigators (3,4,5) to study the portal venous hemodynamics by measuring the portal and splenic vein diameters as well as blood velocity and flow in these vessels utilizing recent non invasive real-time and Doppler ultrasonography.

Upper gastrointestinal tract endoscopy is the best method of visualizing esophageal and gastric vasrices(6). The use of endoscopy for diagnosis and sclerotherapy of bleeding varices combined with regular endoscopic follow-up has provided a unique opportunity to study the progression of changes occurring in the portal hypertensive gastric mucosa(7).

Gastric mucosal lesions are common in portal hypertension and are an important source of bleeding(8). The nature of portal hypertensive gastric mucosa varied among different studies in adults(9,10), but there are few studies reported on gastric mucosal lesions in infants and children with portal hypertension.

Reduction of portal hypertension could be achieved by continuous medical treatment. Different agents that effectively lower portal pressure are available. Of these, propranolol a non-selective β-blocker provoked considerable interest among several investigators (11,12). However, the effect of propranolol therapy on portal hypertension and the resulting gastropathy in children was reported by a few investigators (13).

The present work was conducted to show some light on these important diagnostic and therapeutic aspects of portal hypertension in children.



REVIEW OF LITERATURE

THE ANATOMY OF THE PORTAL VENOUS SYSTEM

The portal venous system (PVS) includes all veins draining the abdominal part of the alimentary tract, spleen, pancreas, and gall bladder. The portal vein (PV) is formed by union of the superior mesenteric vein (SMV) and splenic vein (SV) just posterior to the neck of the pancreas. At the liver hilum, the PV divides into two major branches one to each lobe (right and left branches) (14). These major branches undergo several intrahepatic segmental divisions which supply the liver in a segmental manner and terminate in small branches which pierce the limiting plate of the portal tracts and enter the adjacent sinusoids through short channels (15). After passing to the sinusoids, the hepatic blood is collected to the inferior vena cava (IVC) by the hepatic venous system (14).

The tributaries of the extrahepatic portion of the PV (Fig.1) include :

1) splenic vein (SV)
2) superior mesenteric vein (SMV)
3) left gastric vein (coronary vein)
4) right gastric vein
5)paraumbilical veins
6)cystic vein

Fig. (2) shows a diagram of the histological structure of the normal human liver demonstrating the territories of the classic hepatic lobules and the portal vein territories which are shared by branches of the hepatic artery and tributaries of the hepatic duct (16).