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IMPACT OF ESOPHAGEAL VARICEAL INJECTION SCLEROTHERAPY ON THE CARDIOPULMONARY HAEMODYNAMICS

Thesis

Submitted to the Faculty of Medicine
University of Alexandria
In Partial Fulfillment of the Requirements of
The Degree of

MASTER OF

TROPICAL MEDICINE AND HYGIENE

By

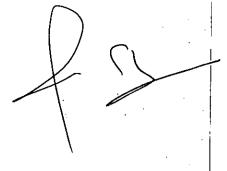
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Dedicated to;

My Parents

For their endless support and love.

Words of gratitude seem so small compared to what

they contribute to my life.

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All praise to God, the most Gracious, most merciful, the fount of all wisdom.

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LIST OF ABBREVIATIONS

ABG =arterial blood gases

AcT = acceleration time

AcTH = acceleration time corrected to heart rate

ALT = serum alanine amino-transferase

ARDS = adult respiratory distress syndrome

Cm = centimeter

Cumm = cubic millimeter

DLco = diffusing capacity of carbon monoxide

ECG = Electro cardiogram

EDRF = endothelial derived relaxing factor

EVL = endoscopic variceal band ligation

EVS = endoscopic variceal sclerotherapy

 FEV_1 = forced expiratory volume at first second

FVC = forced vital capacity

 $\mathbf{H}\mathbf{b}$ = hemoglobin

Hg = mercury

 H_2O = water

HPS = hepatopulmonary syndrome

HR = heart rate

Hrs = hours

HVPG = hepatic vein pressure gradient

IPVD = intrapulmonary vascular dilatations

I.V.C = inferior vena cava

Kg = kilogram

Min. = Minute

ml = milliliter

mm = millimeter

mm³ = cubic millimeter

MOR = sodium morrhuate

NIEC = North Italian Endoscopic Club for The Study and

Treatment of Esophageal Varices

NO = nitrous oxide

PaCo₂ = arterial carbon dioxide tension

 PaO_2 = arterial oxygen tension

PBF = portal blood flow

PH = portal hypertension

PHG = portal hypertensive gastropathy

PV = peak velocity

 SaO_2 = arterial oxygen saturation

SB = Sengestaken- Blakemore

STD = sodium teadecyl sulfate

TIPS = Transjuglar intrahepatic portocaval shunt

WBCs = white blood cells

CONTENTS

Chapter		Page
Ī	Introduction	
	Portal hypertension	1
	Collateral circulation	7
	Esophageal varices	10
	Management of acute variceal bleeding	31
	Endoscopic variceal sclerotherapy	48
	Complications of endoscopic variceal sclerotherapy	58
II	Aim of the work	65
II	Subjects	66
IV	Methods	67
\mathbf{v}	Results	75
VI	Discussion	125
VII	Summary	164
VIII	Conclusion	151
IX	Recommendations	152
X	References Protocol	154
	Arabic summary	



Introduction

Portal Hypertension

Anatomy of portal venous system:

Portal system includes all veins, which carry blood from the abdominal part of the alimentary tract, the spleen, pancreas and gall bladder (1)

The portal vein is approximately 6-8cm long, 1.2cm in diameter and valveless. It is formed by the union of superior mesenteric vein and the splenic vein just posterior to the head of pancreas at about the level of the second lumbar vertebrae, ⁽²⁾ it extends slightly to the right of the midline for a distance of 5.5cm-8cm to the porta hepatis where it separates into right and left branches. ⁽³⁾

Physiology of portal venous system

Portal blood flow is about 1000-1200 ml/min. the liver receives dual blood supply, 25% from hepatic artery, 75% from portal vein. These two inflows have distinct characteristics in terms of pressure, flow and composition. Arterial flow is nutritive while the mesenteric portal drainage represents the consequences of gastrointestinal function activity.⁽⁴⁾