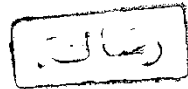


**STUDY OF PORTAL HAEMODYNAMICS AFTER
OBTURATION OF ESOPHAGOGASTRIC
VARICES IN EGYPTIAN PATIENTS
WITH PORTAL HYPERTENSION**

Thesis

**Submitted in Partial Fulfillment of M.D.
Degree in Internal Medicine**

BY



Mostafa Ahmed Mostafa

M.B.B.Ch., M.Sc., Faculty of Medicine, Ain Shams University

Supervised BY

Prof. Dr. Soheir Sheir

Professor of Internal Medicine

Faculty of Medicine - Ain Shams University

Prof. Dr. Mohamed Ramadan Baddar

Professor of Internal Medicine

Faculty of Medicine - Ain Shams University

Prof. Dr. Sayed Shalaby

Professor of Internal Medicine

Faculty of Medicine - Ain Shams University

Dr. Mahmoud Abd El-Megid

Assistant Professor of Internal Medicine

Faculty of Medicine - Ain Shams University



**Faculty of Medicine
Ain Shams University**

***** 1999 *****



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا سبحانك لا علم لنا

إلا ما علمتنا إنك أنت

العليم الحكيم

صدق الله العظيم

Acknowledgment

First, thanks are all due to **God** for blessing this work until it has reached its end, as a part of his generous help throughout my life.

I would like to direct special thanks to **Prof. Dr. Soheir Sheir**, Professor of Internal Medicine, Faculty of Medicine, Ain Shams University, for the great support and encouragement she gave me throughout the whole work. It is a great honor to work under her guidance and supervision.

I would like to express my all appreciation and deepest gratitude to **Prof. Dr. Mohamed Ramadan Baddar**, Professor of Internal Medicine, Faculty of Medicine, Ain Shams University, for his continuous encouragement, enthusiastic supervision and sincere help throughout this work.

I would like to express my sincere gratitude to **Prof. Dr. Sayed Shalaby**, Professor of Internal Medicine, Faculty of Medicine, Ain Shams University, for his close supervision, continuous help, and the tremendous effort he has done in the meticulous revision of the whole work.

I am greatly honored to express my utmost thanks to **Dr. Mahmoud Abd El-Megid**, Assistant Professor of Internal Medicine, Faculty of Medicine, Ain Shams University, from whom I received faithful supervision, valuable suggestions, and continuous guidance throughout this work.

Mostafa Ahmed Mostafa

List of Contents

	PAGE
Introduction	1
Aim of the Work	5
Review of Literature	6
1- Portal hypertension	6
2- Esophageal and gastric varices	54
3- Colour and pulsed Doppler sonography of the portal venous system	87
4- Management of esophageal and gastric varices	110
5- Endoscopic haemostasis of esophageal and gastric variceal bleeding with N-Butyl-2-cyanoacrylate (Histoacryl Blau)	131
Patients and Methods	162
Results	168
Discussion	287
Summary and Conclusion	298
References	303
Arabic Summary	٣-١

Abbreviations

IPH	Idiopathic portal hypertension
MPV	Main portal vein
LPV	Left portal vein
RPV	Right portal vein
SV	Splenic vein
SMV	Superior mesenteric vein
I.V.C.	Inferior vena cava
VOD	Veno-occlusive disease

List of Tables

Table No.		Page
1-A	Clinical data-group A	201
1-B	Clinical data-group B	202
1-C	Clinical data-group C	203
1-D	Clinical data-group D	203
2-A	Laboratory data-group A	204
2-B	Laboratory data-group B	205
2-C	Laboratory data-group C	206
2-D	Laboratory data-group D	207
3-A	Laboratory data 1 week after IS-group A	208
3-B	Laboratory data 1 week after IS-group B	209
3-C	Laboratory data 1 week after IS-group C	210
3-D	Laboratory data 1 week after IS-group D	211
4-A	Comparison between laboratory investigations before and after IS-group A	212
4-B	Comparison between laboratory investigations before and after IS-group B	212
4-C	Comparison between laboratory investigations before and after IS-group C	213
4-D	Comparison between laboratory investigations before and after IS-group D	213
5-A	Real-time abdominal U/S-group A	214
5-B	Real-time abdominal U/S-group B	215
5-C	Real-time abdominal U/S-group C	216
5-D	Real-time abdominal U/S-group D	217
6-A	Portal vein: Diameter-Area-Velocity: group A	218
6-A cont.	Portal vein: Flow-CI: group A	219
7-A	Splenic vein-group A	220
8-A	Left gastric vein- group A	221
9-A	Paraumbilical vein- group A	222
10-B	Portal vein: Diameter-group B	223
10-B cont.	Portal vein: Area-group B	224
10-B cont.	Portal vein: Velocity-group B	225
10-B cont.	Portal vein: Flow-group B	226
10-B cont.	Portal vein: Congestion index-group B	227
11-B	Splenic : Diameter-group B	228
11-B cont.	Splenic : Velocity-group B	229

11-B cont.	Splenic : Flow-group B	230
12-B	Left gastric vein: Diameter-group B	231
12-B cont.	Left gastric vein: Flow-group B	232
13-B	Paraumbilical vein: Diameter-group B	233
13-B cont.	Paraumbilical vein: Flow-group B	234
14-C	Portal vein: Diameter-group C	235
14-C cont.	Portal vein: Area-group C	236
14-C cont.	Portal vein: Velocity-group C	237
14-C cont.	Portal vein: Flow-group C	238
14-C cont.	Portal vein: Congestion index-group C	239
15-C	Splenic : Diameter-group C	240
15-C cont.	Splenic : Velocity-group C	241
15-C cont.	Splenic : Flow-group C	242
16-C	Left gastric vein: Diameter-group C	243
16-C cont.	Left gastric vein: Flow-group C	244
17-C	Paraumbilical vein: Diameter-group C	245
17-C cont.	Paraumbilical vein: Flow-group C	246
18-D	Portal vein: Diameter-Area-Velocity: group D	247
18-D cont.	Portal vein: Flow-CI: group D	248
19-D	Splenic vein: Diameter-Velocity-Flow: group D	249
20-D	Left gastric vein: Diameter-Flow: group D	250

	Group A	
21	Portal vein mean diameter	250
22	Portal vein mean area	251
23	Portal vein mean velocity	251
24	Portal vein mean flow	251
25	Portal vein mean congestion index	252
26	Splenic vein mean diameter	252
27	Splenic vein mean velocity	252
28	Splenic vein mean flow	253
29	Left gastric vein mean diameter	253
30	Left gastric vein mean flow	253
31	Paraumbilical vein mean diameter	254
32	Paraumbilical vein mean flow	254

	Group B	
33	Portal vein mean diameter	254
34	Portal vein mean area	255
35	Portal vein mean velocity	255
36	Portal vein mean flow	255
37	Portal vein mean congestion index	256
38	Splenic vein mean diameter	256
39	Splenic vein mean velocity	256
40	Splenic vein mean flow	257
41	Left gastric vein mean diameter	257
42	Left gastric vein mean flow	257
43	Paraumbilical vein mean diameter	258
44	Paraumbilical vein mean flow	258

	Group C	
45	Portal vein mean diameter	258
46	Portal vein mean area	259
47	Portal vein mean velocity	259
48	Portal vein mean flow	259
49	Portal vein mean congestion index	260
50	Splenic vein mean diameter	260
51	Splenic vein mean velocity	260
52	Splenic vein mean flow	261
53	Left gastric vein mean diameter	261
54	Left gastric vein mean flow	261
55	Paraumbilical vein mean diameter	262
56	Paraumbilical vein mean flow	262

	Group D	
57	Portal vein mean diameter	262
58	Portal vein mean area	263
59	Portal vein mean velocity	263
60	Portal vein mean flow	263
61	Portal vein mean congestion index	264
62	Splenic vein mean diameter	264
63	Splenic vein mean velocity	264
64	Splenic vein mean flow	265

65	Left gastric vein mean diameter	265
66	Left gastric vein mean flow	265
67	Group A: Type of varices-amount and number of sessions of Histoacryl-Number of E.O. sessions-Time of O.V. eradication	266
68	Group B: Type of varices-amount and number of sessions of Histoacryl-Number of E.O. sessions-Time of O.V. eradication	267
69	Group C: Type of varices and amount and number of sessions of Histoacryl	269
70	Group C: Type of varices and amount and number of sessions of Histoacryl	270
71	Comparison between different groups as regards the above mean parameters	270