

# **Comparative Study between Partial Obliteration and Complete Eradication of Esophageal Varices by Injection Sclerotherapy: Outcome & Complications**

Thesis

Submitted for Partial Fulfillment of  
M.D. Degree in Tropical Medicine

By

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**2005**

# ACKNOWLEDGEMENT

*First and foremost thanks to ALLAH, the most merciful.*

*I wish to express my deep appreciation and sincere gratitude to **Prof. Dr. Salah Ibrahim Saif El-Din**, Prof. of Tropical Medicine, Ain Shams University, for his close supervision, valuable instructions, continuous help and guidance. It was a great honour to me to work under his supervision.*

*I am greatly honored to express my deepest thanks and supreme gratitude to **Prof. Dr. Mohammed Amin Sakr** Prof. of Tropical Medicine, Ain Shams University, for his sincere guidance and precious time in planning, practical part, and revision of this work, I owe what is beyond expression for him.*

*I would like to express my sincere appreciation to **Dr. Amany Ahmed Ibrahim** Assist. Prof. of Tropical Medicine, Ain Shams University, for her encouragement and revision of the work,*

*My deepest gratitude to **Dr. Osama Mohammed Hetta** Assist. Prof. Of Radiodiagnosis, Ain Shams University, for his sincere guidance and valuable suggestions in the practical part of this work, He gave me much of his valuable time, experience and support that cannot be expressed in words.*

*I wish to express my deep gratitude to **Prof. Dr. Moubark Mohammed Hussin** Head of Tropical Medicine Department, Ain Shams University, for his continuous support.*

*Last but not least, I wish to express my everlasting appreciation to all the staff members and my colleagues in the Tropical Medicine department, Ain Shams University for their great co-operative attitude and encouragement throughout this work,*

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## List of Contents

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	Page
<b>Introduction:</b>	1
<b>Aim of the Work:</b>	3
<b>Review of Literature:</b>	
□ <b>Chapter 1:</b> Anatomy, endoscopic features and histology of the Esophagus	4
□ <b>Chapter 2:</b> Anatomy, endoscopic features and histology of the stomach	12
□ <b>Chapter 3:</b> The portal venous system and portal hypertension	18
□ <b>Chapter 4:</b> Esophageal varices	49
□ <b>Chapter 5:</b> Management of portal hypertension and esophageal varices	61
□ <b>Chapter 6:</b> Portal hypertensive gastric changes	82
A) Portal hypertensive gastropathy	82
B) Gastric varices	96
□ <b>Chapter 7:</b> Portal hypertensive enteropathy	116
□ <b>Chapter 8:</b> Portal hypertensive colonic changes	118
□ <b>Chapter 9:</b> Doppler ultrasonography in portal hypertension	128
<b>Subjects and Methods</b>	144
<b>Results</b>	152
<b>Discussion</b>	195
<b>Summary</b>	210
<b>Conclusion</b>	213
<b>Recommendations</b>	215
<b>References</b>	216

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## List of Contents

---

Arabic Summary

259

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## List of Abbreviations

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<b>BBSs</b>	Black-Brown Spots
<b>BRTO</b>	Balloon-Occluded Retrograde Transvenous Obliteration
<b>CCDS</b>	Color Coded Doppler Sonography
<b>CI</b>	Congestion Index
<b>CRSs</b>	Cherry Red Spots
<b>CSA</b>	Cross Sectional Area
<b>CT Scan</b>	Computerized Tomographic Scan
<b>D</b>	Vein Diameter
<b>DR</b>	Diffuse Redness
<b>EAO</b>	Ethanolamine Oleate
<b>ECG</b>	Electro Cardiogram
<b>EIS</b>	Endoscopic Injection Sclerotherapy
<b>EST</b>	Endoscopic Sclero-Therapy
<b>ET-1</b>	Endothelin-1
<b>EUS</b>	Endoscopic Ultrasound
<b>EVL</b>	Endoscopic Variceal Ligation
<b>GAVE</b>	Gastric Antral Vascular Ectasia
<b>GIT</b>	Gastrointestinal tract
<b>GMBF</b>	Gastric Mucosal Blood Flow
<b>GOV</b>	Gastroesophageal Varices
<b>GV</b>	Gastric Varices
<b>GVE</b>	Gastric Vascular Ectasia
<b>GVL</b>	Gastric variceal ligation
<b>GVS</b>	Gastric Variceal Sclerotherapy
<b>HCC</b>	Hepatocellular Carcinoma
<b>HCS</b>	Hemacystic Spots
<b>H. Pylori</b>	Helicobacter Pylori
<b>HVPG</b>	Hepatic Venous Pressure Gradient
<b>IGV</b>	Isolated Gastric Varices
<b>iNOS</b>	Inducible Nitric Oxide Synthase

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## List of Abbreviations

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<b>IPH</b>	Idiopathic Portal Hypertension
<b>ISDN</b>	Isosorbide dinitrate
<b>ISMN</b>	Isosorbide 5-mononitrate
<b>LGV</b>	Left Gastric Vein
<b>MLP</b>	Mosaic Like Pattern
<b>MR Angiography</b>	Magnetic Resonance Angiography
<b>MRI</b>	Magnetic Resonance Imaging
<b>NO</b>	Nitric Oxide
<b>NOS</b>	Nitric Oxide Synthase
<b>NSAIDs</b>	Non steroidal anti-inflammatory drugs
<b>PHC</b>	Portal Hypertensive Colopathy
<b>PHE</b>	Portal Hypertensive Enteropathy
<b>PHG</b>	Portal Hypertensive Gastropathy
<b>PUV</b>	Paraumbilical Vein
<b>PVF</b>	Portal Vein Volume Flow
<b>RPLs</b>	Red-point lesions
<b>RWM</b>	Red Wale Markings
<b>SVF</b>	Splenic Vein Volume Flow
<b>TIPS</b>	Transjugular Intrhepatic Portosystemic Shunt
<b>V mean</b>	Mean velocity
<b>VEGF</b>	Vascular Endothelial Growth Factor
<b>WHPG</b>	Wedged Hepatic Pressure Gradient
<b>WHVP</b>	Wedged Hepatic Venous Pressure

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## List of Figures

---

### Figure in Review

Table No.	Title	Page No.
1	The portal venous system	18

### Figures in Results

Fig. No	Title	Page
1	Esophageal varices grade II to III.	186
2	Esophageal varices grade II to III with varices on top of varices.	186
3	Esophageal varices grade II to III with red color sign.	187
4	Partially obliterated esophageal varices.	187
5	Completely eradicated esophageal varices.	188
6	Completely eradicated esophageal varices with mucosal tags.	188
7	Junctional varix (Type I gastric varix)	189
8	The previous junctional varix after histoacryl injection.	189
9	Superficial sclerosant ulcer in a junctional varix passing through the cardia after histoacryl injection.	190
10	Newly developed gastric varix.	190
11	Mosaic pattern of portal hypertensive gastropathy.	191

---

---

## List of Figures

12	Severe portal hypertensive gastropathy.	191
13	Abdominal ultrasound shows dilated portal vein (= 22.4 mm).	192
14	Doppler abdominal ultrasound shows the mean velocity in the previous portal vein.	192
15	Abdominal ultrasound shows recanalized paraumbilical vein.	193
16	Abdominal ultrasound shows leiorenal collaterals.	193
17	Doppler abdominal ultrasound shows splenic hilar collaterals.	194
18	Abdominal ultrasound shows dilated left gastric vein (11.5 mm).	194

---



---

## List of Tables

---

### Tables in Review

Table No.	Title	Page No.
1	Classification of portal hypertension	30

### Tables in Results

Table No.	Title	Page No
1	Demographic data of studied groups.	153
2	Comparison between group I and group II regarding clinical presentation (before sclerotherapy)	154
3	Comparison between group I and group II regarding past medical history	155
4	Comparison between group I and group II regarding results of clinical examination (before sclerotherapy)	156
5	Comparison between group I and group II regarding results of laboratory investigations (before sclerotherapy). A- CBC and ESR in the studied groups B- Liver profile and AFP in the studied groups	157
6	Comparison between group I and group II regarding the etiology of Chronic liver disease	158
7	Comparison between group I and group II regarding Child-Pugh classification	159

---

---

## List of Tables

---

8	Comparison between upper gastrointestinal endoscopy results in group I at the end point of sclerotherapy (partial obliteration) and every 3 months after variceal partial obliteration (1 year-follow up).	162
8a	Complementary table	163
9	Comparison between upper gastrointestinal endoscopy results in group II at the end point of complete eradication of esophageal varices and every 3 months after eradication for 1 year.	166
9a	Complementary table	167
10	Comparison between group I and group II regarding results of upper endoscopy before and after the injection sclerotherapy.	168
11	Comparison between sonographic results in group I before and after partial obliteration of esophageal varices.	170
11a	Complementary table	171
12	Comparison between sonographic results in group II before sclerotherapy and after complete eradication of esophageal varices	172
12a	Complementary table	173
13	Comparison between group I and group II regarding the sonographic results before and after reaching the end point of injection sclerotherapy.	174

---

---

## List of Tables

---

14	Comparison between Doppler ultrasound results in group I before and after partial obliteration of esophageal varices.	176
14a	Complementary table	177
15	Comparison between Doppler sonographic results in group II before and after complete eradication of esophageal varices.	178
15a	Complementary table	179
16	Comparison between group I and group II regarding results of Doppler ultrasound before and after reaching the end point of injection sclerotherapy.	180
17	Comparison between status of collaterals by Doppler-abdominal ultrasound in group I before and after partial obliteration of esophageal varices.	181
17a	Complementary table	182
18	Comparison between status of collaterals in group II before sclerotherapy and after the eradication of esophageal varices (6 months & 1 year) using Doppler-abdominal ultrasound.	183
18a	Complementary table	184
19	Comparison between group I and group II regarding status of collaterals using Doppler-abdominal ultrasound before and after reaching the end point of injection sclerotherapy.	184

---

---

## List of Tables

---

20	Study of the grade of esophageal varices by first U.G.I. endoscopy, portal vein diameter by first ultrasound (before sclerotherapy) and numbers of sessions needed for obliteration or eradication of esophageal varices in each group.	185
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## **Introduction**

Portal hypertension is a common clinical syndrome with chronic liver disease and is characterized by a pathological increase in the portal pressure. Moreover, Portal hypertension is associated with increased portal blood flow. Porto-systemic collaterals develop as a result of portal hypertension (*Paquet, 2000*).

Major variceal bleeding is a life threatening complication of portal hypertension (*Krige & Bomman, 2000*). Bleeding oesophageal varices contribute to the estimated 32,000 deaths annually attributed to cirrhosis (*Hegab & Luketic, 2001*).

The role of endoscopy in bleeding varices is both diagnostic and therapeutic (*Bohnacker et al., 2000*). Endoscopic injection sclerotherapy has been established as one of the most important modalities in the treatment of bleeding esophageal varices (*Osman et al., 2001*).

Gastric varices and portal hypertensive gastropathy (PHG) are important complications of portal hypertension (*Sarin & Agarwal, 2001*).

Paraesophageal varices and gastric varices may develop after injection sclerotherapy. The presence of paraesophageal

varices may predict the recurrence of esophageal varices and recurrent bleeding (*Lo et al., 1999*).

Portal hypertensive gastropathy is almost always associated with cirrhosis and is seen in the fundus and body of the stomach. These gastric changes may be increased after sclerotherapy and is often transitory and less severe, but if it is pre-existing, endoscopic therapy for varices could worsen the portal hypertensive gastropathy with a likelihood of bleeding (*Sarin et al., 2000*).

Doppler ultrasonography is a non invasive method to assess the splanchnic venous and arterial vasculature (*Barbara, 1990*). It has an important role to understand the vascular hemodynamics in these patients (*Abdel-Megeed et al., 2000*). When portal hypertension is suspected, Doppler ultrasound characterizes the changes in the portal haemodynamics and identifies pathways of portosystemic collateralization (*Pozniak, 2002*).

## **Aim of the Work**

The aim of this study is to compare between partial obliteration and complete eradication of post-bleeding esophageal varices using injection sclerotherapy regarding: -

- 1- Effectiveness in preventing rebleeding.
- 2- Development of *de novo* congestive gastropathy or change of its severity if previously was present.
- 3- Development of new gastric varices.
- 4- Hemodynamic changes of the portal circulation and its collaterals.