NON INVASIVE PREDICTION OF VARICES IN PATIENTS WITH LIVER CIRRHOSIS

Thesis Submitted In Fulfillment for
the Master Degree in Tropical Medicine

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2007

ABSTRACT

Oesophageal varices are one of the most important complications of liver cirrhosis and portal hypertension. Bleeding oesophageal varices is the most common cause of upper GI haemorrhage in Egypt with high mortality rate.

Aim of work: to develop a method for prediction of the presence and the size of varices using non invasive clinical, laboratory, ultrasonographic and Doppler parameters.

Patients and methods: 200 patients with liver cirrhosis with no history of variceal haemorrhage were subjected to complete history taking, thorough clinical examinations, laboratory investigations, abdominal ultrasonography and Doppler study of the portal and splenic veins. Upper endoscopy was done classifying patients into 3 groups; patients without varices, patients with small sized varices and patients with large sized varices.

Results: Using multivariate logistic regression analysis, biphasic and monophasic hepatic veins flow pattern, bidirectional and Hepatofugal portal vein direction of flow, decreased portal vein velocity and the presence of ascites were the significant variables for prediction of presence of varices. Shrunken liver and low serum albumin were the significant variables for prediction of large sized varices.

Key words: Prediction of varices – large varices – Non invasive.

Acknowledgement

First of all, Thanks to ***GOD****, without his will, nothing could have been achieved.*

My gratitude to ***Prof. Dr. Ayman Yosry*** *Professor of Tropical Medicine, Cairo University, for his support and endless advices and help. I wish one day to have his way of thinking and part of his perfectionism and part of his knowledge.*

My deep thanks and appreciation to ***Prof. Dr. Rabad Fouad,*** *Professor of Tropical Medicine, Cairo University, for her strict supervision and revision of this work. She gave me much of her time, experience and support, her valuable comments, efforts and collaboration were the causes to complete this work properly, so no words can express my gratitude to her.*

I would like to thank ***Dr. Mohamed Salah,*** *Lecturer of Tropical Medicine, Cairo University, for his effort, time, kindness, and generous help, without his help this work could not be done.*

I would like also to acknowledge the magnificent encouragement, care and support of ***Prof. Dr. Serag Zakaria****, head of Tropical Medicine department, Cairo University. Thanks for always being a father and guidance before being a teacher.*

To all my professors, to whom I have the honor to belong, to my professors who welcomed me, who encouraged and supported me, who taught and advised me, who gave me their confidence, who trained me and pushed me forwards. Special appreciation to ***Prof. Dr. Maysa El-Razky*** *for being always behind me, for her generous care, advices and sympathy.*

I wish to express to all my colleagues in Tropical medicine department, Cairo university, my deepest appreciation. Thanks for their help and endless support.

My deepest gratitude for all members of the endoscopy unit for helping me in completing this work and I would like to thanks ***Prof. Dr. Sameh Labib*** *for the facilities he gave to me to perform this work.*

I would like to thanks my family for their endless support and care for my whole life. They were always helping and encouraging me to continue and finish this work. I really owe to them so much.

Last, but certainly not least, I owe to the patients included in this study, the whole of it and to all our Kasr El-Aini patients my own life. May God alleviate their sufferings and may all our efforts be just for their own benefit.

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LIST OF ABBREVIATIONS

- **A**: cross sectional area.
- **AASLD**: American Association for the Study of Liver Diseases.
- **ANP**: Atrial Natriuretic Peptide.
- **AT-II**: angiotensin-II.
- **CHA**: coded harmonic angio.
- **CE**: capsule endoscopy.
- **CI**: congestion Index of the Portal Vein.
- **CSPH**: clinically significant portal hypertension.
- **CT**: computerized tomography.
- **EGD**: esophagogastroduodenoscopy
- **eNOS**: endothelial cell nitric oxide synthetase.
- **EUS**: endoscopic ultrasonography.
- **ETs**; endothelins.
- **GOVs**: gastro-oesophageal varices.
- **HSC:** hepatic stellate cells**.**
- **HVPG**: hepatic venous pressure gradient.
- **IGVs**: isolated gastric varices.
- **IHVR:** intrahepatic vascular resistance**.**
- **iNOS**: inducible form of NOS.
- **LSM**: liver stiffness measurement.
- **MCP-1**: monocyte chemotactic protein 1.
- **mean PVV**: mean Portal Vein Flow Velocity.
- **MELD**: model of end stage liver disease.
- **MMP-2**: metalloproteinase 2.
- **MRI**: magnetic resonance imaging.
- **NE**: norepinephrine.

- **nNOS**: neuronal cells.
- **NO**: nitric oxide.
- **NOS**: nitric oxide synthetase.
- **NPV:** negative predictive value.
- **PC:** prothrombin concentration.
- **PDGF**: platelet-derived growth factor.
- **PG**: prostaglandins.
- **PHT**: portal hypertension.
- **PIGF**: placental growth factor.
- **PPV:** positive predictive value.
- **PT**: prothrombin time.
- **PVF**: portal vein volume flow.
- **RAAS**: renin angiotensin activating system.
- **SAAG**: serum-ascites albumin concentration gradient.
- **SI**: splenic index.
- **TGF-B**: transforming growth factor B**.**
- **TIPSS**: transjugular intrahepatic Portosystemic shunt.
- **TNF α**: tumor necrosis factor α.
- **UII**: urotensin II.