

*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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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.

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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.