Evaluation of the (P-SOFT) Score as a Novel Method to Predict Patient Survival following Living Donor Liver Transplantation in Egypt

Thesis

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List of Abbreviations

Title	Abbreviation
AASLD	American Association for the Study of Liver Diseases
A2ALL	Adult-to-Adult Living Donor Liver Transplantation
ACE	Angiotensin-converting Enzyme
ADH	Antidiuretic hormone
ACLF	Acute-on-chronic liver failure
AIDS	Acquired Immune Deficiency Syndrome
ALT	Alanine transaminase
AMA	Antimitochondrial antibodies
AFP	Alpha fetoprotein
a-SMA	Smooth muscle a-actin
AST	Aspartate transaminase
ATN	Acute tubular necrosis
ATP	Adenosine triphosphate
BD	Bile duct
B.I.D	Bis in die= Twice a day
BMI	Body mass index
CAD	Coronary artery disease
CEA	Carcinoembryonic antigen
CI	Confidence Interval
CMV	Cytomegalovirus
COPD	Chronic Obstructive Pulmonary Disease
CTP	Child-Turcotte-Pugh score
CV	Central vein
DDLT	Deceased donor liver transplantation
DM	Diabetes Mellitus
ECM	Extracellular matrix
EEG	Electroencephalography
EGD	Esophagogastroduodenoscopy
ESLD	End-stage liver disease
EVL	Endoscopic variceal ligation
FHVP	Free hepatic venous pressure
GGTP	Gamma glutamyltranspeptidase
GFR	Glomerular Filtration Rate
GGT	Gamma-glutamyl transpeptidase
HAT	Hepatic artery thrombosis
HBIg	Hepatitis B Immune Globulin
HBV	Hepatitis B virus
HCC	Hepatocellular carcinoma

HCV	Hepatitis C virus
HE	Hepatic encephalopathy
HIV	Human Immunodeficiency Virus
HM	Hepatic myofibroblasts
HPS	Hepatopulmonary syndrome
HR	Hazard ratio
HRS	Hepatorenal Syndrome
HSCs	Hepatic Stellate Cells
HVPG	Hepatic venous pressure gradient
ICU	Intensive care unit
IHD	Ischemic Heart Disease
INR	International normalized ratio
IQ	Intelligence quotient
I.V	Intravenous
LDLT	Living-donor liver transplantation
LT	Liver transplantation
MELD	Model for End-Stage Liver Disease
MMPs	Matrix metalloproteinases
NAFLD	Non-Alcoholic Fatty Liver Disease
NASH	nonalcoholic steatohepatitis
NO	Nitric oxide
NSAIDs	Non-Steroidal Anti-Inflammatory Drugs
OAS	Over all survival
PAP smear	Papanicolaou smear
PBC	Primary Biliary Cirrhosis
PFT	Pulmonary function test
PHG	Portal hypertensive gastropathy
PSC	Primary Sclerosing Cholangitis
P-SOFT	Preallocation score to predict Survival Outcomes Following Liver Transplantation
PT	Prothrombin time
PTH	Parathyroid hormone
PTT	Partial Thromboplastin Time
PV	Portal vein
PVT	Portal vein thrombosis
RPF	Renal plasma flow
RAAS	Renin-angiotensin-aldosterone system
ROC	Receiver Operator Characteristic
SAAG	Serum–ascites albumin gradient
SBP	Spontaneous bacterial peritonitis
SD	Standard Deviation
SNS	Sympathetic Nervous System

SPECT	Single-photon emission computed tomography
SPSS	Statistical Package for the Social Science
SVR	Sustained viral response
TB	Tuberculosis
TGF-β1	Transforming growth factor-beta 1
T.I.D	Ter in die= Thrice a day
TIMP-1	Tissue inhibitor of metalloproteinase-1
TIPS	Transjugular Intrahepatic Portosystemic Shunt
UNOS	United Network for Organ Sharing
VEP	Visual evoked potential
WD	Wilson's disease
WHVP	Wedged hepatic venous pressure

Introduction

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Cirrhosis of liver is a common health problem and results in significant morbidity and mortality. In the past, treatment of cirrhosis was mostly supportive and directed toward management of complications of this disease. Liver transplantation has changed the management and outcome of patients with cirrhosis of liver ***(Perkins, 2006).***

All patients with end-stage cirrhosis should be considered for liver transplantation in good time and for many patients in a life-threatening situation, liver transplantation remains the only chance for survival ***(Kuntz, 2006)***.

Living-donor liver transplantation (LDLT) has been refined and accepted as a valuable treatment for patients with end-stage liver disease in order to overcome the shortage of organs and mortality on the waiting list ***(Imura et al, 2008).***

The Model for End-Stage Liver Disease (MELD) score is an independent predictor of mortality in patients with cirrhosis and those who are awaiting liver transplantation. The MELD score has been proven to be an accurate predictor of waitlist mortality, as demonstrated in the pioneering study by Wiesner et al., with a c-statistic of 0.83 when used to predict 3-month mortality of candidates on the waitlist ***(Wiesner et al, 2003)***.

However, the MELD score is a poor predictor of mortality following transplantation. This observation was confirmed by Desai et al. in their analysis, which reports a c-statistic of only 0.54 with the use of the MELD to predict 3-month recipient mortality following liver transplantation ***(Desai et al, 2004)***.

Methods other than the MELD score, such as the Child-Turcotte-Pugh score, also had a poor ability to predict post transplant survival ***(Brown et al, 2002)***.

The Preallocation score to predict Survival Outcomes Following Liver Transplantation (P-SOFT) was designed to accurately predict the waitlist mortality with a c-statistic of 0.69 as a predictor of 3-month recipient survival following liver transplantation ***(Rana et al, 2008)***.

Aim of the work

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The aim of our work is to highlight the P-SOFT score and to assess its ability to predict the recipient survival at 3 months following living donor liver transplantation in Egypt.