بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سلوي محمود عقل

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد

Evaluation of left ventricular diastolic function using a tissue-Doppler imaging based algorithm according to 2016 ASE/EACVI guidelines in patients with decompensated liver cirrhosis: A prospective observational study

Thesis

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Eslam Mohammed Maher Attallah*.*

Contents

List of Abbreviations

Abb.	Full term
AASLD	American Association for the Study of Liver Diseases
AFP	Alph feto protein
AKI	Acute kidney injury
ALD	Alcoholic liver disease
ALT	Alanine transaminase
ASE	American Society of Echocardiography
AST	Aspartate aminotransferase
AV	Aortic valve
BSA	Body surface area
CCM	Cirrhotic Cardiomyopathy
CDC	Centers for Disease Control and Prevention
CT	Computerized tomography
CTP	Child Turcotte Pugh
D.Bilirubin	Direct bilirubin
DD	Diastolic Dysfunction
EACVI	European Association of Cardiovascular Imaging
EASL	European Association for the Study of the Liver
EF	Ejection fraction
ESLD	End-stage liver disease
GEVs	Gastroesophagial varices
GI	Gastrointestinal
HB	Hemoglobin
HBV	Hepatitis B Virus
HCC	Hepatocellular carcinoma
HCV	Hepatitis C Virus
HE	Hepatic encephalopathy
HF	Heart failure
HRS	Hepatorenal Syndrome
HSCs	Hepatic stellate cells
IL-6	Interleukin 6
INR	International normalized ratio
IVR	Isovolumic relaxation
IVRT	Isovolumetric relaxation time
LA	Left atrium
LAVI	Left atrial volume indexed
LC	Liver Cirrhosis

Abb.	Full term
LT	Liver transplantation
LV	Left ventricle
LVDD	Left ventricular diastolic dysfunction
LVEF	Left ventricular ejection fraction
MELD	Model For End-Stage Liver Disease
MRI	Magnetic resonance imaging
MV	Mitral valve
Na+	Sodium
NAFLD	Nonalcoholic fatty liver disease
NASH	Nonalcoholic steatohepatitis
NCHS	National Center for Health Statistics
PLT	Platelet
PND	Paroxysmal nocturnal dyspnea
PPIs	Proton pump inhibitors
PWD	Pulsed Wave Doppler
SBP	Spontaneous Bacterial Peritonitis
sCr	Serum creatinine
SVR	Systemic vascular resistance
T.Bilirubin	Total bilirubin
TACE	Transarterial chemoembolization
TDI	Tissue Doppler Imaging
TGF-β1	Transforming growth factor beta 1
TIPSS	Trans jugular intrahepatic portosystemic shunt
TLC	Total leukocyte count
TNF	Tumour necrosis factor
TR	Tricuspid regurgitation
TRpV	Tricuspid regurgitation peak velocity
UNOS	United Network for Organ Sharing
VH	Variceal hemorrhage

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Introduction

Presence of liver cirrhosis is diagnosed based on the combination of characteristic clinical, laboratory, radiological findings or via histological findings, if available ***(Strnad et al., 2017).***

Regardless of the reason for admission to ICU, cirrhosis adds complexity and a poor prognosis to the critically ill patient, although the prognosis has improved in recent years ***(Hernaez et al., 2017).***

Liver failure indicates severe liver damage and can be caused by a variety of factors. It results in a severe disorder or decompensation in functions, such as synthesis, detoxification, excretion, and bioconversion, leading to a clinical syndrome which can include coagulopathy, jaundice, hepatic encephalopathy and ascites. The severity of liver failure is correlated with high mortality and thus it is important to identify factors that will help predict prognosis in these patients ***(Sarin et al., 2014).***

Cirrhotic cardiomyopathy has been described as a condition characterized by impaired contractile response to stress, diastolic dysfunction and electro- physiological abnormalities, in the absence of known cardiac disease ***(Sampaio et al., 2013).***

The most common cardiac abnormality that occurs among cirrhotic patients is left ventricular diastolic dysfunction (LVDD) related to the development of myocardial fibrosis, hypertrophy and subendothelial edema. Diastolic dysfunction occurs when the passive elastic traits of the myocardium are reduced due to the increased myocardial mass and changes in the extracellular collagen ***(Stundiene et al., 2019)***.

According to different studies, the prevalence of LVDD in cirrhotic patients is ranging from 25.7% to as high as 81.4%. Evidence suggests that patients with cirrhosis display primarily LVDD with normal systolic function at rest. Diastolic dysfunction may progress to systolic dysfunction, although this has not been directly shown in cirrhotic patients. In several studies; severity of LVDD correlated with the degree of liver failure. Furthermore, the rate of LVDD was higher in decompensated cirrhosis compared with compensated cirrhosis. On the contrary, several studies have not identified any association between severity of liver disease and LVDD ***(Stundiene et al., 2019).***

Therefore, an attentive analysis of already performed studies on LVDD causes and prevalence in cirrhotic patients as well as LVDD complication influence on patients' quality of life and their survival is needed to develop appropriate treatment strategy. It is important to assess cardiac changes especially in those patients, who are