
وَقُل رَّبِّ زِدْنِي عِلْمًا

APRI score(Aspartate Transaminase/Platelet count Ratio Index) as a predictive value for different grades of Liver Cirrhosis

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List of Abbreviations

AAR	ALT/AST Ratio
ALD	Alcoholic Liver Disease
ALP	Alkaline Phosphatase
ALT	Alanine Transaminase
AMA	Anti-Mitochondrial Antibody
ANA	Anti-Nuclear Antibody
AKI	Acute Kidney Injury
APRI	AST/Platelet count Ratio Index
ASMA	Anti-Smooth Muscle Antibody
AST	Aspartate Transaminase
BMI	Body Mass Index
CHB	Chronic Hepatitis B
CHC	Chronic Hepatitis C
CLD	Chronic Liver Disease
CPT	Child-Pugh-Turcotte
ECM	Extra Cellular Matrix
ELF	Enhanced Liver Fibrosis score
EVL	Endoscopic Variceal Ligation
GGT	Gamma Glutamyl Transferase
GOV	Gastro-Osophageal Varices
HBcAb	Hepatitis B Core Antibody
HBsAg	Hepatitis B Surface Antigen
HBV	Hepatitis B Virus
HCC	Hepatocellular Carcinoma
HCV	Hepatitis C Virus

HIV	Human Immune Deficiency Virus
HSC	Hepatic Stellate Cell
IGV	Isolated Gastric Varices
INR	International Normalization Ratio
LC	Liver Cirrhosis
LKM	Liver Kidney Microsomal Antibody
MCV	Mean Corpuscular Volume
MELD	Model for End stage Liver Disease
MHE	Minimal Hepatic Encephalopathy
MMP	Matrix Metalloproteinase
NAFLD	Non Alcoholic Fatty Liver Disease
NASH	Non Alcoholic Steatohepatitis
PCP	Primary Care Physician
PMN	Polymorphonuclear Leucocytes
PPV	Positive Predictive Value
SBP	Spontaneous Bacterial Peritonitis
Se	Sensitivity
SNP	Single Nucleotide Polymorphism
Sp	Specificity
TIMPs	Tissue Inhibitors of Metalloproteinases
TIPS	Transjugular Intrahepatic Portosystemic Shunt

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Introduction

Cirrhosis is "A chronic liver disease of highly various etiology characterized by inflammation, degeneration, and regeneration in differing proportions; pathologic hallmark is formation of microscopic or macroscopic nodules separated by bands of fibrous tissue. Progressive liver fibrosis is the main cause of organ failure in chronic liver diseases of any etiology. Advanced liver fibrosis results in cirrhosis that can in turn lead to liver failure, portal hypertension and hepatocellular carcinoma ***(Bataller et al. ,2005)&(Brenner et al.,2009).***

Early detection of fibrosis would allow for initiation of anti-fibrotic therapies capable of halting and even reversing this process. This would in turn prevent progression to hepatic cirrhosis, and the morbidity and mortality this condition entails***(Iredale et al,.2008).***

As regard causes of liver cirrhosis:

Cirrhosis is increasing in prevalence due to the epidemics of hepatitis C and obesity and the associated fatty liver ***(Russo et al., 2004).*** Alcohol use/abuse is increasing in many countries, in part due to the global recession ***(Burk , 2010).*** Many patients with cirrhosis at this time have two or even all three of the above insults speeding liver damage and scarring.

Egypt has a very high prevalence of HCV and a high morbidity and mortality from chronic liver disease, cirrhosis, and hepatocellular carcinoma. Approximately 20% of Egyptian blood donors are anti-HCV positive. Egypt has higher rates of HCV than neighboring countries as well as other countries in the world with comparable socioeconomic conditions and hygienic standards for invasive medical, dental, or paramedical procedures ***(Lemon & Brown,1995).***

The severity of cirrhosis is commonly classified with the Child-Pugh score. This score uses bilirubin, albumin ,international normalization ratio (INR), presence and severity of ascites and encephalopathy to classify patients in class A, B or C; class A has a favorable prognosis, while class C is at high risk of death. It was devised in 1964 by Child and Turcotte and modified in 1973 by Pugh ***(Pugh et al. ,1973).***

APRI score is reliable non invasive method for the diagnosis of cirrhosis in patients with chronic liver diseases of various causes, and are also prognostic indicators for the occurrence of severe complications in cirrhotic patients ***(Lippincott et al. , 2010).***

In 2003 Wai et al. published a study in which they validated the index known as APRI Score that establishes the relationship

between serum aspartate aminotransferase levels and platelet count. The parameters are simple, inexpensive and available in the remotest locations ***(Wai et al., 2003).***

Aim of the work

To assess the diagnostic ability of the APRI score for prediction of different grades of liver cirrhosis.

Liver Cirrhosis

Cirrhosis represents the final common histologic pathway for a wide variety of chronic liver diseases. The term cirrhosis was first introduced by Laennec in 1826. It is derived from the Greek term *scirrhus* and refers to the orange or tawny surface of the liver seen at autopsy. Cirrhosis is defined histologically as a diffuse process in which the normal anatomical lobules are replaced by architecturally abnormal nodules separated by fibrous tissue. Progressive histological stages have been defined in the process leading to the development of cirrhosis ***(Anthony et al., 2008).***

Although cirrhosis is a pathological concept, the diagnosis of this entity is frequently based on clinical criteria that mainly reflect the consequences of increased portal pressure. Once the diagnosis of liver cirrhosis is performed, the time to reach a clinical situation of end-stage liver disease and a need for liver transplantation might be quite long. In this process, patients progress from a compensated phase with no clinical complications to a decompensated phase, in which patients present the main clinical events in liver cirrhosis: variceal bleeding, ascites, encephalopathy, and hepatocellular carcinoma ***(Salvador &Joan, 2011).***