Hindawi Publishing Corporation
International Journal of Hepatology
Volume 2012, Article ID 624675, 5 pages
doi:10.1155/2012/624675

Research Article

The Utility of Scoring Systems in Predicting Early and Late Mortality in Alcoholic Hepatitis: Whose Score Is It Anyway?

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Received 14 April 2012; Accepted 26 July 2012

Academic Editor: Neil Guha

Background. Alcoholic hepatitis (AH) is a distinct clinical entity in the spectrum of alcoholic liver disease with a high short-term mortality. Several scoring systems are being used to assess the severity of AH but the ability of these scores to predict long-term survival in these patients is largely unknown. *Aims*. We aim to assess the utility of five different scoring systems Child Pugh (CP), model for end-stage liver disease (MELD), Maddrey's discriminant function (mDF), Glasgow AH score (GAHS), and age-bilirubin-INR-creatinine (ABIC) score in predicting shot-term and long-term survival in patients with AH. *Methods*. Patients with histological evidence of AH were identified from our database. The clinical and biochemical parameters were used to calculate the 5 different scores. The prognostic utility of these scores was determined by generating an ROC curve for survival at 30 days, 90 days, 6 months, and 1 year. *Results and Conclusions*. All 5 scores with the exception of CP score have a similar accuracy in predicting the short-term prognosis. However, they are uniformly poor in predicting longer-term survival with AUROC not exceeding 0.74. CP score is a very poor predictor of survival in both short and long term. Abstinence from alcohol was significantly ($P < 0.05$) associated with survival at 1 year.

1. Introduction

Alcoholic hepatitis (AH) is one of the most recognised "acute on chronic" liver syndromes, wherein patient presents with symptoms and signs of acute decompensation with evidence of chronic liver disease, in the setting of ongoing or recent consumption of excess alcohol [1]. Patients present with progressive jaundice, tender hepatomegaly, and evidence of systemic inflammatory response (SIRS) with characteristic liver biopsy findings of ballooned hepatocytes and Mallory bodies (eosinophilic inclusion bodies) surrounded by neutrophils [2]. AH is a cause of considerable mortality and morbidity in the Western population. A Danish study reported a 28-day mortality rate of 15% among patients hospitalised for AH [3]. A pooled one-month mortality of patients with AH who were treated with placebo in randomised control trials (RCTs) was 22.44% in US and 18.45% in Europe [4]. Short-term prognosis of alcoholic hepatitis is worse than that of decompensated cirrhosis as defined by the system agreed at the Baveno IV consensus conference; 1-year probability of mortality is 20% in decompensated cirrhosis [5]. Hence, it is important to distinguish patients with AH, in particular those with much worse short-term prognosis, from those with decompensated cirrhosis so that the former group are targeted for specific potentially effective treatments [6–8].

Several scoring systems have been developed and used to assess the severity of AH and to predict survival in these patients. Maddrey's discriminant function (DF) has been used in clinical practice for more than 30 years [9]. A DF of 32 is used to stratify a patient's severity of AH, patients with a score of ≥ 32 having a high short-term mortality [10]. Model for end-stage liver disease (MELD) score was initially developed to predict survival in patients with cirrhosis and portal hypertension, but was found to detect short-term survival in patients with AH with good accuracy [11]. However, the cut-off value for MELD score in detecting severe AH is