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ORIGINAL ARTICLE

Hospital mortality in cirrhotic patients at a tertiary care center☆,☆☆

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KEYWORDS
Cirrhosis of the liver;
In-hospital mortality;
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Abstract
Introduction: Cirrhosis of the liver is known for its high risk of mortality associated with episodes of acute decompensation. There is an even greater risk in patients that present with acute-on-chronic liver failure. The identification of patients at higher risk for adverse outcomes can aid in making the clinical decisions that will improve the prognosis for these patients.
Aims: To determine in-hospital mortality and evaluate the epidemiologic and clinical characteristics of patients with cirrhosis of the liver seen at a tertiary referral hospital.
Methodology: A descriptive, observational, cohort study was conducted on adult patients with cirrhosis of the liver, admitted to a tertiary care center in Bucaramanga, Colombia, within the time frame of March 1, 2015 and February 29, 2016.
Results: Eighty-one patients with a mean age of 62 years were included in the study. The main etiology of the cirrhosis was alcoholic (59.3%). In-hospital mortality was 23.5% and the most frequent cause of death was septic shock (68.4%), followed by hypovolemic shock (10.5%). A MELD score $\geq$ 18, a leukocyte count > 12,000/ul, and albumin levels below < 2.5 g/dl were independent factors related to hospital mortality.
Conclusions: In-hospital mortality in cirrhotic patients is high. Sepsis and bleeding are the 2 events leading to acute-on-chronic liver failure and death. A high MELD score, elevated leukocyte count, and low level of albumin are related to poor outcome during hospitalization. Adjusted prevention-centered public health measures and early and opportune diagnosis of this

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disease are needed to prevent the development of complications and to improve outcome in cirrhotic patients.

PALABRAS CLAVE
Cirrosis hepática;
Mortalidad hospitalaria;
Infección

Mortalidad hospitalaria en pacientes cirróticos en un hospital de tercer nivel

Resumen
Introducción: La cirrosis hepática es reconocida por el alto riesgo de mortalidad asociada a los episodios de descompensación aguda; este riesgo se incrementa aun más en el caso de pacientes que desarrollan insuficiencia hepática crónica agudizada. Identificar a aquellos pacientes con mayor riesgo de desenlaces adversos puede ayudar en la toma de decisiones clínicas encaminadas a mejorar su pronóstico.
Objetivo: Determinar la mortalidad hospitalaria y evaluar las características epidemiológicas y clínicas de pacientes con cirrosis hepática atendidos en un hospital de tercer nivel.
Metodología: Se realizó un estudio descriptivo observacional de cohorte, de pacientes adultos con cirrosis hepática admitidos en un hospital de tercer nivel en Bucaramanga, Colombia, entre el 1 de marzo de 2015 y el 29 de febrero de 2016.
Resultados: Se incluyeron 81 pacientes con edad promedio de 62 años. La principal etiología de cirrosis fue alcohólica (59.3%); la mortalidad hospitalaria fue del 23.5% siendo la causa más frecuente de muerte el choque séptico (68.4%), seguido del choque hipovolémico (10.5%). Fueron factores independientes relacionados con mortalidad hospitalaria un puntaje MELD $\geq$ 18, leucocitos > 12.000/ul y albúmina < 2.5 g/dl.
Conclusiones: La mortalidad hospitalaria en pacientes cirróticos es elevada, siendo la sepsis y el sangrado los 2 eventos precipitantes de insuficiencia hepática crónica agudizada y muerte. Un puntaje MELD alto, leucocitos elevados y albúmina baja están relacionados con un pobre desenlace durante la hospitalización. Es necesaria la adecuación de medidas de salud pública encaminadas a la prevención, diagnóstico temprano y oportuno de esta enfermedad, para evitar el desarrollo de complicaciones y mejorar el pronóstico en pacientes cirróticos.

Introduction

Cirrhosis of the liver is currently one of the main public health problems worldwide,[1] and is consolidated among the 10 first causes of general mortality in lower middle income countries.[2]

The development of complications secondary to portal hypertension and liver failure, which are outcome markers, occurs in up to 15% of cirrhotic patients each year.[3] These complications include ascites, variceal gastrointestinal bleeding, infection, and hepatic encephalopathy. Compensated cirrhosis with no esophageal varices has a low annual mortality rate, close to 1%, whereas the development of esophageal varices increases the risk for death up to 3.4% per year. Mortality drastically increases, once there is some kind of decompensation, and the development of ascites increases the mortality rate to 20% per year. The presence of severe hepatic encephalopathy supposes an annual mortality rate of 54%, and after the first episode of variceal gastrointestinal bleeding, it can reach 57% in the first year of the event.[4] The development of acute decompensation in cirrhosis usually is associated with a precipitating event, such as bacterial or viral infections, surgery, trauma, and active alcoholism, among others. Even though many patients respond to standard treatment and return to a compensated state, one third of patients develop hepatic or extrahepatic organ failure, worsening their prognoses. This condition has been named acute-on-chronic liver failure. It is a recently recognized syndrome, characterized by acute decompensation of cirrhosis associated with hepatic and extrahepatic organ failure that conditions a high short-term mortality rate (30-40% at 28 days). This entity presents mainly in patients with cirrhosis of alcoholic etiology and the most frequent triggering factor is infection.[3,5] The development of acute-on-chronic liver failure occurs in the context of systemic inflammation, whose severity is correlated with the degree of organ failure and mortality.

Different Latin American studies have shown high in-hospital mortality rates in cirrhotic patients, reaching 24.2% in the general ward,[6] but increasing up to 86% in patients requiring management in intensive care units,[7] demonstrating the poor outcome associated with cirrhosis. Epidemiologic data on cirrhosis of the liver are limited in the regional literature. There are few studies that provide