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Advanced Cirrhosis Hepatis Due to Chronic Alcohol Consumption: A Case Report from a Tertiary Hospital in Indonesia

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A B S T R A C T

Introduction: Cirrhosis hepatis due to chronic alcohol consumption represents a significant health issue, particularly in developing countries such as Indonesia. The progressive nature of this condition often leads to advanced liver disease by the time of diagnosis, complicating management and treatment.

Case Presentation: A 45-year-old male patient with a history of chronic alcohol use presented with symptoms of fatigue, jaundice, and abdominal distension. Physical examination and laboratory tests revealed advanced cirrhosis with ascites, hepatosplenomegaly, and esophageal varices. Diagnostic imaging confirmed nodular liver morphology and signs of portal hypertension. The patient was classified as Child-Pugh Class B and had a MELD score of 15. Management included intensive alcohol cessation counseling, diuretic therapy for ascites, endoscopic variceal ligation, and prophylactic antibiotics to prevent spontaneous bacterial peritonitis. Nutritional support and hepatoprotective agents were also part of the treatment regimen.

Conclusion: This case highlights the complexities of managing advanced cirrhosis due to chronic alcohol consumption in a resource-limited setting. Effective management requires a multifaceted approach, including addressing both the disease and the underlying alcohol dependence. Despite challenges such as limited access to advanced therapies like liver transplantation, a comprehensive treatment strategy can significantly improve patient outcomes. Public health initiatives focusing on alcohol reduction and early disease detection are crucial for reducing the incidence and impact of alcohol-related liver disease.

Keywords: Cirrhosis Hepatis, Chronic Alcohol Consumption, Alcoholic Liver Disease, Ascites, Esophageal Varices, Portal Hypertension, Liver Transplantation, Indonesia, Case Report, Hepatic Encephalopathy.

Introduction

Cirrhosis hepatis is a chronic and progressive condition that marks the final stage of various liver diseases. Characterized by widespread fibrosis and the formation of regenerative nodules, cirrhosis significantly impairs the liver's ability to function. Globally, alcohol consumption, chronic hepatitis B and C infections, and non-alcoholic fatty liver disease (NAFLD) are the primary causes of cirrhosis. Among these, Alcoholic Liver Disease (ALD) remains a leading cause of cirrhosis in many regions, even in countries where alcohol consumption may be culturally restricted or stigmatized. Indonesia, with its majority Muslim population, has historically had lower levels of alcohol consumption compared to other nations. However, alcohol use remains prevalent among certain subpopulations, especially in urban centers and among younger adults. Studies have shown that alcohol-related disorders are increasing in these communities, partly due to changing social norms, economic growth, and the influence of globalization. Locally-produced alcoholic beverages like *arak* (a traditional spirit) and beer are frequently consumed. Consequently, alcohol-related liver diseases, though underreported and underdiagnosed, pose a growing public health concern.[1,2]

The pathophysiology of alcohol-induced cirrhosis involves prolonged and excessive alcohol consumption, typically over several years or decades. Chronic alcohol use leads to fatty liver (hepatic steatosis), which progresses to alcoholic hepatitis and eventually cirrhosis if the consumption continues unabated. The liver's ability to regenerate is overwhelmed by the constant injury, resulting in fibrosis and, over time, cirrhosis. Once cirrhosis sets in, it can lead to life-threatening complications such as portal hypertension, ascites, hepatic encephalopathy, and variceal bleeding. In Indonesia, diagnosis of liver disease is often delayed due to limited healthcare access, lack of awareness, and the social stigma attached to alcohol consumption. Many patients present with advanced disease when clinical symptoms like jaundice, ascites, or gastrointestinal bleeding manifest, often requiring urgent care. Healthcare facilities, especially outside major cities, may lack the necessary resources for early detection, which contributes to poorer outcomes for patients with cirrhosis. Thus, timely diagnosis and intervention are crucial in improving the prognosis of patients with cirrhosis.[3]

This case report details the presentation, diagnosis, and management of a 45-year-old male with cirrhosis hepatis secondary to chronic alcohol consumption, admitted to a tertiary care hospital in Indonesia. The case highlights the clinical challenges and social implications of treating alcohol-related liver disease in a society where alcohol use is often hidden due to cultural sensitivities. The report also underscores the importance of public health strategies targeting the early recognition of at-risk individuals and the promotion of alcohol cessation programs.

Case Presentation

The patient, a 45-year-old male, presented to a tertiary hospital in Indonesia, with symptoms suggestive of liver dysfunction. Upon admission, a comprehensive clinical assessment was performed. This included a detailed history focusing on the patient's alcohol consumption, with specific inquiries into the amount and duration of intake. The patient reported chronic alcohol use for over 20 years, consuming approximately 80-100 grams of alcohol daily. Physical examination revealed jaundice, abdominal distension consistent with ascites, hepatosplenomegaly, and peripheral edema.

Laboratory tests were conducted to evaluate the extent of liver damage and rule out other etiologies. Liver function tests (LFTs) revealed elevated aspartate aminotransferase (AST) and alanine aminotransferase (ALT), with markedly increased total bilirubin and decreased serum albumin. Coagulation studies indicated a prolonged prothrombin time (PT) and elevated international normalized ratio (INR), suggesting impaired liver synthetic function. A complete blood count (CBC) demonstrated anemia and thrombocytopenia, both common findings in advanced liver disease. Renal function tests showed normal serum creatinine and blood urea nitrogen (BUN) levels, ruling out concomitant kidney involvement. Viral hepatitis serologies were negative for hepatitis B surface antigen (HBsAg) and anti-hepatitis C virus (HCV) antibodies, excluding viral hepatitis as a cause of cirrhosis. Imaging studies were performed, including an abdominal ultrasound, which showed a nodular liver, splenomegaly, and moderate ascites. Doppler ultrasound of the hepatic vasculature demonstrated patent portal and hepatic veins, though signs of portal hypertension were evident. To further evaluate the risk of gastrointestinal bleeding, upper gastrointestinal endoscopy was performed, which revealed Grade II esophageal varices. Elective variceal ligation was carried out to reduce the risk of variceal hemorrhage.

The severity of the patient's cirrhosis was classified using the Child-Pugh classification and the Model for End-Stage Liver Disease (MELD) score. The patient was found to be in Child-Pugh Class B, indicating moderate cirrhosis. The MELD score, calculated using bilirubin, creatinine, and INR, was 15, indicating a moderate risk of mortality within three months and eligibility for liver transplantation consideration. Management focused on both addressing the underlying cause (alcohol cessation) and managing complications of cirrhosis. The patient was counseled extensively on alcohol cessation, and psychological support was provided through referral to an addiction specialist. Pharmacotherapy for alcohol dependence, including naltrexone, was offered, and the patient's family was involved in counseling sessions to ensure a supportive environment for abstinence. Diuretic therapy with spironolactone (100 mg/day) and furosemide (40 mg/day) was initiated to manage the ascites. The patient was placed on a low-sodium diet and provided with vitamin supplementation, including B-complex vitamins, folate, and thiamine, to address the malnutrition often associated with chronic alcohol use and cirrhosis.

Prophylactic antibiotics (ciprofloxacin) were administered to reduce the risk of spontaneous bacterial peritonitis (SBP), a potential complication of ascites. Elective endoscopic variceal ligation (EVL) was performed as a preventive measure against variceal bleeding. In addition, silymarin, a hepatoprotective herbal medication, was prescribed to support liver function. The patient was closely monitored with regular follow-up appointments every two months. Liver function tests, abdominal ultrasounds, and periodic upper gastrointestinal endoscopies were scheduled to assess disease progression, monitor varices, and evaluate the need for further interventions, including potential liver transplantation. Throughout follow-up, the patient showed adherence to alcohol cessation and lifestyle modifications, though his liver function remained compromised due to the advanced stage of cirrhosis.

Discussion

Cirrhosis hepatis is a global health concern, with alcohol consumption being a leading cause of liver damage and cirrhosis. Alcohol-related liver disease (ALD) follows a predictable progression from hepatic steatosis to alcoholic hepatitis and eventually to cirrhosis if excessive alcohol intake is not curtailed. This case illustrates the typical presentation and management challenges of a patient with advanced cirrhosis due to chronic alcohol consumption, particularly within the context of a healthcare system in a developing country like Indonesia. In Indonesia, while alcohol consumption is relatively lower compared to Western countries due to cultural and religious factors, there is evidence of increasing alcohol use, especially among younger populations and in urban areas. This has led to a rising incidence of ALD, though it remains underreported due to the societal stigma surrounding alcohol use. This stigma often causes patients to delay seeking medical help until the disease has progressed to an advanced stage, as was the case with our patient. By the time many patients present to healthcare facilities, they have already developed significant complications, making management more difficult and outcomes less favorable.[3,4]

The pathophysiology of alcohol-induced cirrhosis is multifactorial. Chronic alcohol consumption leads to oxidative stress, lipid peroxidation, and inflammation, all of which contribute to hepatocyte injury. Over time, persistent injury triggers a wound-healing response that results in fibrosis. In cirrhosis, normal liver architecture is replaced by fibrous tissue and regenerative nodules, which disrupts blood flow through the liver and impairs its functional capacity. In this case, the patient's extensive alcohol use over more than two decades had caused significant fibrosis and nodularity of the liver, as evidenced by both clinical and imaging findings. Management of cirrhosis requires a multidisciplinary approach. Abstinence from alcohol is the cornerstone of treatment, as it can slow or even halt the progression of liver damage. In this case, the patient received intensive counseling and was enrolled in an alcohol cessation program, with family involvement playing a key role in supporting his commitment to sobriety. However, achieving long-term abstinence remains a significant challenge for many patients, particularly those with coexisting mental health or socioeconomic issues. Despite available pharmacotherapy for alcohol dependence, including drugs such as naltrexone and acamprosate, relapse rates remain high without consistent follow-up and support.[5,6]

Medical management of cirrhosis also focuses on treating its complications. Ascites, one of the most common complications of cirrhosis, was present in this patient and was managed with diuretic therapy and sodium restriction. Portal hypertension, another hallmark of cirrhosis, can lead to the formation

of esophageal varices, which pose a high risk for life-threatening bleeding. In this case, elective endoscopic variceal ligation (EVL) was performed, a well-established prophylactic intervention to prevent variceal bleeding. The role of prophylactic antibiotics, such as ciprofloxacin, in preventing spontaneous bacterial peritonitis (SBP) in patients with cirrhotic ascites is also crucial, as SBP carries a high mortality rate if left untreated. One of the key challenges in managing cirrhosis is determining when patients should be evaluated for liver transplantation. The Child-Pugh classification and MELD score are important tools used to assess the severity of liver disease and predict patient outcomes. In this patient, a Child-Pugh score of B and a MELD score of 15 indicated moderate cirrhosis with a significant risk of decompensation and death within the next three months, making liver transplantation a consideration. However, in resource-limited settings like Indonesia, access to liver transplantation is limited by several factors, including donor availability, high costs, and the need for specialized centers capable of performing such procedures. As a result, many patients with cirrhosis may not be able to access this potentially life-saving intervention.[7,8]

The role of adjunctive therapies, such as the use of hepatoprotective agents like silymarin, is still a topic of debate in the management of cirrhosis. Although silymarin is widely used in many countries as an over-the-counter supplement for liver protection, its efficacy in improving long-term outcomes in patients with cirrhosis remains unclear. Some studies suggest that silymarin may have anti-inflammatory and antioxidant effects that could benefit patients with liver disease, but robust clinical evidence is lacking. In this case, silymarin was prescribed as part of a supportive care regimen, although the patient's overall prognosis was driven more by the underlying severity of his liver damage and his adherence to alcohol cessation.[8]

This case also underscores the importance of public health interventions aimed at reducing the burden of alcohol-related liver disease in Indonesia. Public education campaigns, stronger regulations on alcohol sales, and the promotion of early screening for liver disease in at-risk populations are essential to reducing the incidence of cirrhosis. Screening programs targeting individuals with known alcohol use disorders, particularly in primary care settings, can lead to earlier detection and management of liver disease before it progresses to cirrhosis. Furthermore, efforts to reduce the stigma associated with alcohol use and increase access to alcohol cessation programs could help prevent the long-term consequences of chronic alcohol abuse. In conclusion, this case highlights the complexities of managing cirrhosis hepatis secondary to chronic alcohol use in a developing country context. Early recognition of at-risk individuals, comprehensive management of complications, and a strong focus on alcohol cessation are essential to improving patient outcomes. However, limited access to advanced therapies, including liver transplantation, and societal factors such as stigma continue to present significant challenges. Addressing these issues requires a multifaceted approach, including improved healthcare infrastructure, public health initiatives, and patient education, to combat the growing burden of alcohol-related liver disease in Indonesia.[9,10]

Conclusion

Cirrhosis hepatis due to chronic alcohol consumption remains a significant and growing health challenge in Indonesia, as demonstrated by this case. The progression of alcohol-related liver disease is often insidious, with patients frequently presenting in advanced stages when complications have already developed. Early detection, combined with timely interventions such as alcohol cessation counseling, diuretic therapy for ascites, and preventive management of portal hypertension, is crucial in improving outcomes. This case underscores the importance of multidisciplinary care, integrating psychological, medical, and social support to manage both the disease and its underlying causes effectively. Despite advancements in managing the complications of cirrhosis, the long-term prognosis for patients with advanced cirrhosis, especially in resource-limited settings, remains guarded. Liver transplantation is often the only curative option, but access to this life-saving intervention is limited in many developing countries. To address this issue, public health initiatives aimed at reducing alcohol abuse, increasing awareness of liver disease, and promoting early screening are essential to curbing the growing burden of alcohol-related liver disease. Ultimately, this case highlights the need for a comprehensive approach to managing cirrhosis, focusing not only on medical treatment but also on the societal and behavioral aspects of alcohol dependence. Addressing these challenges will require concerted efforts from healthcare providers, policymakers, and the public to improve prevention, early intervention, and access to care for patients with alcohol-related liver disease in Indonesia.

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