Chronic Liver Disease in the Human **Immunodeficiency Virus Patient**



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KEYWORDS

- Highly active antiretroviral therapy
 Hepatitis
 Fatty liver
- Nonalcoholic fatty liver disease
 Nonalcoholic steatohepatitis
 Metabolic syndrome
- Drug-induced liver injury Opportunistic infections

KEY POINTS

- · Liver disease in HIV is an emerging etiology of morbidity in HIV. It is the second most common cause of mortality after HIV itself and hence merits vigilance and meticulous work-up.
- Hepatitis C virus is the most common viral hepatitis in HIV. It is hoped that newer all-oral drug regimens soon will allow for improved efficacy and increased compliance in all patients; they are already effective in some.
- Fatty liver in HIV is a multifactorial, potentially reversible etiology for chronic liver disease. No definitive treatment is available yet.
- Drug-induced liver injury is a common etiology of elevated liver functions in HIV, but close monitoring and identification of the culprit drug prevent morbidity.
- Opportunistic infections are on the decline in the age of highly active antiretroviral therapy but should still be considered as clinical situations dictate.

Disclosure: None.

Clin Liver Dis 19 (2015) 1-22 http://dx.doi.org/10.1016/j.cld.2014.09.001

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INTRODUCTION

Since the discovery of the human immunodeficiency virus (HIV) 3 decades ago to the initiation of combination highly active antiretroviral therapy (HAART), the epidemiology of HIV and AIDS in the United States has fluctuated. Currently, there are 1.1 million HIV-positive individuals living in the Unites States, with nearly 16% of them being unaware of their infection.

With HIV-infected patients now living longer, liver disease has emerged as a significant cause of morbidity and mortality, ^{1,2} and liver enzyme elevations are frequently noted in patients with HIV.³ Due to well-controlled HIV, opportunistic infections (OIs) involving the liver are now rarely seen. Although HIV-infected patients are not protected from having any specific liver disease, most liver diseases now seen in patients with HIV include drug-induced liver injury (DILI), viral hepatitis, and both alcohol and nonalcohol-related steatohepatitis (fatty liver).

This article discusses the common etiologies of increased liver enzymes or otherwise abnormal liver panel and hepatitis in HIV (Fig. 1), keeping in mind the pathogenesis for various etiologies. It shall briefly discuss diagnostics and treatment strategies for each condition, with the overall goal of providing the reader a basic framework for the management of liver disease in HIV. In general, the severity of liver enzyme elevations should be assessed using the National Institutes of Health (NIH)-NIAI (National Institute for Allergy and Immunology) guidelines (Table 1). In addition, liver synthetic function should be assessed with total and direct bilirubin and prothrombin time (PT) and international normalized ratio (INR). Those with evidence of hepatic decompensation (ascites, jaundice, hepatic encephalopathy), regardless of the etiology, should be considered for referral to a specialized liver center.

HEPATITIS C VIRUS/HUMAN IMMUNODEFICIENCY VIRUS COINFECTION

Globally there are 40 million HIV-infected individuals. The prevalence of hepatitis C virus (HCV) infection by itself was estimated at 4 million in the United States,⁴ and HCV has recently overtaken HIV as a cause of mortality.⁵ Because of shared routes of transmission, coinfection with hepatitis C and HIV, is common and the incidence of HCV/HIV coinfection ranges from 10% in those who acquired HIV sexually, to over 80% in those who acquired HIV by intravenous drug use.⁴ With the mortality of AIDS on the decline because of effective treatment strategies, liver disease caused by hepatitis C coinfection has become the leading cause of mortality in this group.⁶

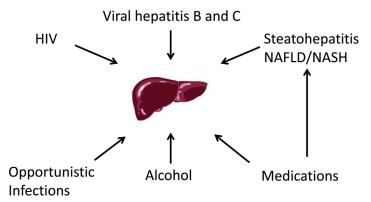


Fig. 1. The potential etiologies of abnormal LFTs in HIV.

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