Diagnosis of Alcoholic Liver Disease

Key Foundations and New Developments

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KEYWORDS

• Alcoholic liver disease • Alcoholic hepatitis • Alcoholic fatty liver disease
• Chronic alcoholic liver disease • Cirrhosis

KEY POINTS

- There are three main clinical entities encompassing alcoholic liver disease (alcoholic fatty liver disease, alcoholic hepatitis, and chronic alcoholic liver disease), and each is increasing in prevalence and represents a growing economic burden in health care.
- The patient history and a detailed physical examination remain the cornerstones of diagnosing alcoholic liver disease.
- Clinicians should understand the value and relevance of routine laboratory indices, imaging studies, and histopathology, and how to apply these tools on a case-by-case basis in patients with alcoholic liver disease.
- Novel biomarkers, scoring systems, and imaging modalities are improving the ability to diagnose and manage alcoholic liver disease, but for most practicing clinicians, these are evolving tools that are not ready for routine implementation.
- Liver biopsy has become sparingly used in the diagnosis of alcoholic liver disease, but retains importance in specific scenarios.

INTRODUCTION

Alcoholic liver disease (ALD) encompasses a spectrum of liver injury patterns caused by the use and abuse of alcohol.[1,2] Generally, there are three main clinical entities encompassing ALD. The first is alcoholic fatty liver disease (AFLD), which can occur with or without evidence of steatohepatitis. The second is acute alcoholic hepatitis (AH), which is a clinical syndrome representing an acute pattern of liver injury often

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overlying chronic injury from prolonged alcohol use. The third is chronic ALD, caused by long-standing alcohol use, often with underlying hepatic fibrosis or cirrhosis. Each of these three clinical entities is becoming more prevalent in the United States as rates of alcohol consumption continue to rise.[3,4]

The approach to the diagnosis of ALD continues to rely heavily on a careful history and physical examination, but also requires an understanding of routine laboratory indices, imaging studies, and histopathology. Novel serum markers and other diagnostic tools are opening new frontiers in the diagnosis of ALD, but are not ready for routine implementation.

RISK FACTORS

Understanding of the risk factors for ALD has improved during the last 20 years, but remains imperfect. It is now established that ALD is more common in patients aged 40 to 50 years old, obese patients, and in women (secondary to decreased gastric mucosal alcohol dehydrogenase and therefore increased hepatic metabolism).[5] The type of alcohol seems less important than the amount, but predicting the absolute amount of alcohol that leads to ALD in any given patient remains challenging. Updated U.S. guidelines now suggest lower thresholds for men (>210 g weekly or >30 g daily) and women (>140 g weekly or >20 g daily).[6] Of note, European guidelines continue to advocate higher thresholds (>60 g daily for men, >30 g daily for women) for risk in developing ALD.[7]

Although "social drinking," defined as a maximum of 30 g of alcohol daily (one standard drink contains roughly 14 g of alcohol), can predispose an individual to ALD, most individuals who consume greater than this amount are still unlikely to develop ALD.[8,9] Among patients who consume greater than 120 g of alcohol daily, there is as little as a 13% risk of developing ALD, and only 2.2% of such patients in a representative cohort developed cirrhosis.[10] Risks also seem to vary based on ethnicity, with white Hispanic men and women at higher risk of cirrhosis and mortality from ALD than other populations.[11] Furthermore, although increased alcohol consumption seems to increase the risk of ALD development, this correlation is not linear. Some cases of ALD may have an accelerated progression because of the impact of concomitant liver diseases, such as chronic viral hepatitis and non-AFLD.[12]

HISTORY

Establishing a diagnosis of ALD requires a thorough history from the patient. Historical details provided by the patient remain more sensitive and less expensive than biochemical tests in general outpatient practice settings, and allow initiation of the physician-patient relationship.[13] There are many validated tools that are helpful in primary care settings to identify patients who have or are at risk of having alcoholism, including the CAGE, MAST, AUDIT-C, or single-item screening tests. For more information on these tools, please (see Pierre M. Gholam: Prognosis and Prognostic Scoring Models for Alcoholic Liver Disease and Acute Alcoholic Hepatitis, in this issue). The U.S. Preventive Services Task Force recommends the use of the AUDIT-C or single-item screening tests.[14] However, in evaluating for ALD (as opposed to alcoholism alone), it is important to elicit further detail of alcohol use beyond what is contained in these screening tools, and to inquire about risk factors for other types of liver disease.

Having a frank discussion with patients about their alcohol use is difficult. Patients, especially young men and middle-aged women, may underestimate by 40% to 50% the amount of alcohol they consume.[15] Patients may also purposefully underreport