Jaundice, Anorexia, and Fever in a 52-Year-Old Man

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The patient has a history of hospital admissions for complications of alcoholism, including pancreatitis and trauma from falls. What's your diagnosis?

A 52-year-old man presents with jaundice. He has had abdominal pain and anorexia for 7 to 10 days. A day earlier, his wife told him his eyes were yellow, and this prompted him to seek medical care. In addition, he has lost a considerable—but unknown—amount of weight in the past 3 months. He is admitted to the hospital.

**HISTORY**

The patient has had several previous hospital admissions for complications of alcoholism, including 2 admissions for pancreatitis and several for falls and trauma. He has a history of heavy drinking, typically consuming half a fifth of spirits (which contains about 145 g of alcohol) and an unknown quantity of beer daily. However, his recent symptoms have limited his alcohol consumption during the past 2 weeks.

**PHYSICAL EXAMINATION**

This middle-aged man has diminished muscle mass. Temperature is 38°C (100.8°F); heart rate, 96 beats per minute; respiration rate, 16 breaths per minute; and blood pressure, 90/72 mm Hg. Examination reveals scleral icterus but no enlarged lymph nodes. Chest and heart are normal. Abdomen is soft, but a firm and tender liver edge is easily palpable to 6 cm below the right costal margin. Gross ascites is not detected. A few jerks of asterixis are elicited.

**LABORATORY AND IMAGING RESULTS**

Hemoglobin level is 9.6 g/dL, with a mean corpuscular volume of 101 fL; white blood cell count, 12,900/μL with a normal differential; and platelet count, 175,000/μL. Aspartate aminotransferase (AST) level is 260 U/L, and alanine aminotransferase (ALT) level is 100 U/L. Serum bilirubin level is 9.7 g/dL; serum creatinine level, 0.9 g/dL. Prothrombin time (PT) is 19 seconds (control PT, 12 seconds), with an international normalized ratio of 2.0. Abdominal ultrasonography shows minimal ascites and hepatomegaly without abscess, masses, or biliary obstruction. Serologies are negative for viral hepatitis.

**Clinical and laboratory findings for this patient are typical of alcoholic hepatitis, which is serious but also treatable and reversible.**

**Clinical features of alcoholic hepatitis.** This man's case is a compendium of typical features. His age is in the range within which alcoholic hepatitis most commonly presents: 40 to 60 years. He consumes in excess of 100 g of alcohol per day. His symptoms of anorexia and fever, as well as the physical signs of jaundice, tender hepatomegaly, and impending encephalopathy, are also consistent with the diagnosis. The laboratory evaluation has excluded viral hepatitis and biliary obstruction. Finally, his moderately elevated AST level (less than 300 U/L) is more than twice his ALT level; this finding in a heavy drinker indicates alcoholic hepatitis.

**THE TAKE-HOME MESSAGE:**

Effective treatments for alcoholic hepatitis include abstinence from alcohol, nutritional support, and either prednisolone or pentoxifylline (depending on the patient's Maddrey score).

In cases such as this, a liver biopsy is not needed to make the diagnosis. Should a specimen be obtained, the typical histological findings include hepatocyte ballooning, hepatocytes laden with fat droplets, and hepatocytes that contain amorphous eosinophilic inclusions (Mallory bodies).

**Scoring systems.** A variety of validated scoring systems have been developed to assess disease severity, prognosis, and treatment candidacy in patients with alcoholic hepatitis. The oldest, most clinically validated scoring system is the Maddrey discriminant function \((4.6 \times (PT − control PT)) + serum bilirubin level\), which helps with treatment decisions and estimates of prognosis. This
patient's Maddrey score is 41.9. The more recent Model for End-Stage Liver Disease (MELD) score and Lille score are also useful in making treatment decisions and prognostic estimates.\(^3,4\)

**Treatment.** Therapy for alcoholic hepatitis involves general measures for management of both alcoholism and liver failure (eg, therapy for delirium tremens, if present; lactulose and antibiotics for encephalopathy; and antibiotics for infection).

**Nutritional support.** Nearly all patients with alcoholic hepatitis are severely malnourished and require aggressive nutritional support that consists of calories and protein (choice B). However, the bulk of the evidence suggests that nutritional support probably does not improve short-term survival in severe cases.\(^3\) Poll Results

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**Alcohol abstinence.** Absolute abstinence (choice D) is essential; continued alcohol consumption worsens both acute and chronic liver damage. Needless to say, abstaining is not easy for patients; the difficulty of achieving abstinence is probably one of the reasons for the roughly 40% mortality seen with alcoholic hepatitis at 6 months after onset of the clinical syndrome.\(^1,4\) Nonetheless, abstinence remains the cornerstone of recovery.

**Pharmacotherapy.** Specific pharmacological therapies for alcoholic hepatitis include pentoxifylline (choice E) and corticosteroids (choice C).

In patients with Maddrey scores of less than 32, pentoxifylline significantly reduces the short-term mortality of alcoholic hepatitis from 46% (the mortality seen with placebo) to 24%.\(^1\) The benefit seems to derive from prevention of hepatorenal syndrome.

Corticosteroids have a long—and controversial—history of use in alcoholic hepatitis. Newer studies and meta-analysis data have shown that oral prednisolone, 40 mg/d, is helpful and indicated in patients with alcoholic hepatitis whose Maddrey scores are above 32; however, in patients with lower scores, prednisolone should not be given. In appropriate patients, corticosteroid therapy reduced 1-month mortality from 35% to 15%.\(^2,5\)

No data are available for combination therapy with both pentoxifylline and a corticosteroid. This patient's Maddrey score was greater than 32; thus, prednisolone was given.

**Liver transplant.** At present, alcoholic hepatitis is actually a contraindication to liver transplant, since by definition patients have recently been consuming alcohol. This makes choice **A** the correct answer. Note that patients who survive alcoholic hepatitis and can abstain for 6 months may become eligible for transplant.

**Outcome of this case.** Nutritional support using the oral route was started: the patient received 35 to 40 cal/kg daily, which included 1.25 g/kg of protein per day. Oral prednisolone, 40 mg/d, was started as well. Over the ensuing 7 days, his bilirubin level decreased and his PT improved, along with his Lille score, thereby justifying completion of the full 28-day course of prednisolone.

**References:**

**REFERENCES:**

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