TABLE 34. Other Viral Causes of Hepatitis[a]

Infection	Symptoms/Laboratory Findings	Diagnosis	Treatment/Outcome
Cytomegalovirus	Mimics EBV-related mononucleosis Mild aminotransferase elevations	CMV serologies in immunocompetent host	Supportive; spontaneous recovery is norm
Primary herpes simplex virus in women in third trimester of pregnancy	Fever, altered mental status, right-upper-quadrant pain, hepatomegaly, presentation similar to sepsis Aminotransferase levels ≥5000 U/L, disproportionately low bilirubin level, coagulopathy	PCR; herpes simplex virus testing; liver biopsy showing intranuclear inclusions, multinucleated giant cells, and coagulative necrosis with minimal inflammation	IV acyclovir; 80% case-fatality rate in untreated patients
Primary varicella zoster virus (rare)	Primary infection in organ transplant recipients can cause acute liver failure	Biopsy of skin or affected organ	IV acyclovir
Parvovirus B19	Fever, rash, arthralgias Transiently elevated aminotransferase levels	Serologic tests demonstrating positivity for parvovirus B19-specific IgM antibody	Supportive; rarely associated with fulminant hepatic failure

CMV = cytomegalovirus; EBV = Epstein-Barr virus; IV = intravenous; PCR = polymerase chain reaction.

[a]Other viruses associated with elevated liver chemistries: human herpes virus 6, 7, and 8 and adenoviruses.

Autoimmune Hepatitis

Autoimmune hepatitis is a chronic inflammatory hepatitis that is four times more common in women than men and can be associated with other autoimmune diseases (autoimmune thyroiditis, rheumatoid arthritis, or ulcerative colitis). It can affect individuals at any age but most frequently occurs in middle-aged adults. Presentation of autoimmune hepatitis varies from asymptomatic elevation of aminotransferase levels to extrahepatic symptoms, such as myalgia and malaise, to acute liver failure. Diagnosis is based on laboratory results (including positivity for antinuclear and smooth-muscle antibodies and elevated IgG levels), exclusion of other diagnoses (e.g., Wilson disease, viral hepatitis, and drug-induced liver injury), and liver histology.

Treatment includes a combination of prednisone and azathioprine for most patients. Prednisone monotherapy may be less preferable because of adverse effects, although azathioprine requires monitoring for cytopenia and may cause drug-induced hepatitis. Biochemical response occurs in 3 to 8 months for the 85% of patients whose disease responds to standard treatment, but histologic response can lag by many months. Duration of treatment should be 2 to 3 years before consideration of withdrawal. Liver biopsy is recommended to determine histologic response before consideration of drug withdrawal. High relapse rates after discontinuation of treatment underscore the need for serial monitoring of liver tests. Patients with severe acute autoimmune hepatitis presenting with jaundice should be managed by a hepatologist, and patients with features of acute liver failure require urgent transfer to a transplant center.

KEY POINTS

- Diagnosis of autoimmune hepatitis is based on elevated aminotransferase levels, positivity for antinuclear antibody and smooth-muscle antibody, elevated levels of IgG, and liver histology.
- Treatment of autoimmune hepatitis includes a combination of prednisone and azathioprine for most patients; duration of treatment should be 2 to 3 years before consideration of withdrawal.

Alcohol-Induced Liver Disease

Alcohol injury to the liver may take the form of steatosis, steatohepatitis, fibrosis, or cirrhosis. A history of alcohol use is the most important component in making the diagnosis, although not all patients are forthcoming about alcohol use. See MKSAP 19 General Internal Medicine 2 for more information about screening for alcohol use disorder. Most patients with alcoholic liver disease have consumed more than 100 g of alcohol daily for 20 years. Alcoholic hepatitis is a distinct clinical syndrome of severe steatohepatitis on a background of chronic alcoholic liver disease, often presenting with fever, jaundice, tender hepatomegaly, and leukocytosis. Approximately 25% of heavy drinkers develop cirrhosis. Differentiating alcoholic hepatitis from decompensated cirrhosis in patients with underlying cirrhosis can be difficult.

Physical examination may show evidence of hepatomegaly in patients with steatosis or steatohepatitis. In patients with alcoholic hepatitis or cirrhosis, findings of advanced liver disease may be present, including muscle wasting, scleral icterus, jaundice (including sublingual jaundice), spider