Hepatitis C: Review Questions

George J. Alangaden, MD

QUESTIONS

Choose the single best answer for each question.

1. **Which of the following factors is associated with a slower progression of hepatitis C virus (HCV) infection to chronic liver disease?**
   (A) Alcohol use
   (B) Female gender
   (C) HCV genotype 2
   (D) Older age at infection

2. **On which of the following criteria should selection of patients for treatment of chronic hepatitis C infection be based?**
   (A) HCV genotype
   (B) Liver biopsy results
   (C) Serum HCV RNA levels
   (D) Serum transaminase levels

3. **A 44-year-old man with end-stage renal disease is evaluated for therapy of chronic hepatitis C infection (genotype 2). He has strictly abstained from alcohol for the past 6 months. His serum alanine aminotransferase level is 250 U/L, and his HCV RNA level is detectable. Results of a liver biopsy reveal evidence of fibrosis and severe necrosis and inflammation. Which of the following is the best therapeutic option for this patient?**
   (A) Administration of interferon and ribavirin
   (B) Administration of pegylated interferon alfa
   (C) Administration of pegylated interferon and ribavirin
   (D) No therapy

4. **A 52-year-old man with chronic hepatitis C infection (genotype 1) and moderate hepatic fibrosis and inflammation on liver biopsy is treated with pegylated interferon and ribavirin. After 12 weeks of therapy, his HCV RNA level has declined by 1 log. Which of the following is the most appropriate next step in his treatment?**
   (A) Continue treatment for a total of 24 weeks
   (B) Continue treatment for a total of 48 weeks
   (C) Discontinue treatment
   (D) Repeat liver biopsy and assess the need for further therapy

(turn page for answers)

Dr. Alangaden is an Associate Professor of Internal Medicine, Division of Infectious Diseases, Wayne State University School of Medicine, Detroit, MI.

EXPLANATION OF ANSWERS

1. **(B) Female gender.** The natural history of hepatitis C virus (HCV) infection varies among the persons infected. Generally, chronic infection will develop in about 60% to 85% of patients with the disease. Factors associated with spontaneous clearance of infection include younger age at time of infection and female gender. Accelerated progression to chronic liver disease is associated with male sex, an older age at time of infection, alcohol intake, and coinfection with other viruses, including HIV.[1] Viral genotypes 2 and 3 are associated with better response to antiviral therapy.
2. **(B) Liver biopsy results.** The grading and staging of hepatitis, based on a liver biopsy results, is helpful in treating patients with chronic HCV infection. The degrees of inflammation, necrosis, and fibrosis can be assessed, and other causes of liver disease can be excluded. The National Institutes of Health Consensus Development Conference Panel recommends that therapy for HCV infection be limited to those patients who have histological evidence of progressive disease. Thus, all patients with fibrosis or moderate to severe degrees of inflammation and necrosis on liver biopsy should be treated. Patient selection should not be based on the presence or absence of symptoms, the mode of acquisition, the genotype of HCV RNA, or serum HCV RNA levels.[2,3]
3. **(B) Administration of pegylated interferon alfa.** Administration of ribavirin causes erythrocyte hemolysis to a variable degree in most patients. Therefore, ribavirin is contraindicated in patients with anemia, hemolysis, and hemoglobinopathies. Ribavirin is excreted by the kidneys; thus, patients with renal disease (ie, serum creatinine > 2.0 mg/dL) can develop severe hemolysis. Monotherapy with pegylated interferon alfa is preferred in situations in which therapy with ribavirin is contraindicated.[1,2]
4. **(C) Discontinue treatment.** The current treatment recommendations for persons with chronic HCV infection, genotype 1, is pegylated interferon plus ribavirin for 48 weeks. However, an early viral response, defined as a minimum of a 2-log decrease in viral load during the first 12 weeks of treatment, is predictive of a sustained viral response. Therefore, continuation of therapy in patients who fail to achieve this minimum response at 12 weeks is generally considered unnecessary.[3]

REFERENCES

1. Lauer GM, Walker BD. Hepatitis C virus infection. N Engl J Med 2001;345:41–52.
2. Chronic hepatitis C: current disease management. Bethesda (MD): National Digestive Diseases Information Clearinghouse; 2002. NIH Publication No. 02-4230. Available at http://www.niddk.nih.gov/health/digest/pubs/chrnhepc/chrnhepc.htm. Accessed 2 Dec 2002.
3. Management of hepatitis C: 2002. National Institutes of Health Consensus Development Conference Statement; 2002 Jun 10–12; Bethesda, MD. Available at http://consensus.nih.gov/cons/116/116cdc_intro.htm Accessed 2 Dec 2002.

Copyright 2003 by Turner White Communications Inc., Wayne, PA. All rights reserved.

SELF-ASSESSMENT QUESTIONS ON THE WEB

Now you can access the entire Self-Assessment Series on the Web. Go to www.turner-white.com, click on the "Hospital Physician" link, and then click on the "Self-Assessment Questions" option.