Putting Prevention into Practice
An Evidence-Based Approach

Screening for Hepatitis C Virus Infection in Adults

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▶ **See related U.S. Preventive Services Task Force Recommendation Statement at http://www.aafp.org/afp/2014/0915/od1.html.**

The case study and answers to the following questions are based on the recommendations of the USPSTF, an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services. More detailed information on this subject is available in the USPSTF Recommendation Statement and the evidence report on the USPSTF website (http://www.uspreventiveservicestaskforce.org). The practice recommendations in this activity are available at http://www.uspreventiveservicestaskforce.org/uspstf/uspshepc.htm.

A collection of Putting Prevention into Practice quizzes published in *AFP* is available at http://www.aafp.org/afp/ppip.

CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 372.

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Case Study

T.S. is a 59-year-old white man born in 1955. He presents as a new patient to request a refill of his cholesterol medication. He has an unremarkable medical history. When you inquire about his social history, he reports that he has been married for 30 years, drinks a moderate amount of alcohol, does not smoke, and has no recent history of illicit drug use.

Case Study Questions

1. For which of the following reasons should you discuss and offer hepatitis C virus (HCV) infection screening to this patient?

- ❑ A. His moderate intake of alcohol puts him at increased risk of HCV infection.
- ❑ B. If the screening result is positive, the antiviral regimens for HCV infection may lead to sustained virologic response and improved clinical outcomes.
- ❑ C. He was born in 1955 and is more likely to be diagnosed with HCV infection than someone born before 1945 or after 1965.
- ❑ D. The prevalence of chronic HCV infection is currently the highest it has ever been.

2. Which one of the following statements about screening for HCV infection is correct?

- ❑ A. If the test result is negative and risk factors remain unchanged, the patient should be rescreened in five years.
- ❑ B. If the test result is positive, the patient is at increased risk of hepatocellular carcinoma.
- ❑ C. Incidence of HCV infection is highest among persons of Asian or Pacific Islander descent and lowest among American Indians and Alaska Natives.
- ❑ D. Liver biopsy is the only test with good diagnostic accuracy for diagnosing fibrosis and cirrhosis.

3. According to the U.S. Preventive Services Task Force (USPSTF), which one of the following statements about potential harms associated with screening and treatment for HCV infection is correct?

- ❑ A. Bleeding, infection, and severe pain occur in approximately 10% of patients who have a liver biopsy.
- ❑ B. Anxiety, patient labeling, and feelings of stigmatization are potential harms of screening.
- ❑ C. Antiviral therapy regimens are associated with a low rate of harms.
- ❑ D. Antiviral therapy commonly causes serious adverse events that require additional medication.

Answers appear on the following page.

Answers

1. The correct answers are B and C. The USPSTF recommends screening for HCV infection in persons at high risk. The USPSTF also recommends offering one-time screening for HCV infection to persons born between 1945 and 1965. The most important risk factor for HCV infection is past or current injection drug use. Another established risk factor for HCV infection is receipt of a blood transfusion before 1992. Because of the implementation of screening programs for donated blood, blood transfusions are no longer an important source of HCV infection. Additional risk factors include long-term hemodialysis, being born to an HCV-infected mother, incarceration, intranasal drug use, getting an unregulated tattoo, and other percutaneous exposures. The relative importance of these additional risk factors may differ based on geographic location and other factors. Moderate alcohol intake is not a risk factor for HCV infection. The USPSTF found no direct evidence (randomized controlled trials) on the benefit of screening in asymptomatic adults in reducing morbidity and mortality. However, the USPSTF found adequate evidence that antiviral regimens result in sustained virologic response and improved clinical outcomes. According to data from 1999 to 2008, about three-fourths of U.S. patients with HCV infection were born between 1945 and 1965. Persons in this birth cohort are at higher risk of HCV infection, possibly because they received blood transfusions before the introduction of screening in 1992 or have a history of other risk factors for exposure decades earlier. As a result, one-time screening in the birth cohort may identify infected patients at earlier stages of disease. The prevalence of chronic HCV infection is estimated to have peaked in 2001 at 3.6 million people.

2. The correct answer is B. Studies suggest that about one-half of the recently observed three-fold increase in incidence of hepatocellular carcinoma is related to acquisition of HCV infection two to four decades earlier. Persons born between 1945 and 1965 and persons who are at risk because of potential exposure before universal blood screening need to be screened only one time. The highest incidence rate of HCV infection is found among American Indians and Alaska Natives, whereas the lowest incidence rate is among persons of Asian or Pacific Islander descent. The USPSTF found adequate evidence that various noninvasive tests have good to very good diagnostic accuracy in diagnosing fibrosis or cirrhosis.

3. The correct answer is B. The USPSTF found limited evidence on the harms of screening for HCV infection, which include anxiety, patient labeling, and feelings of stigmatization. The USPSTF found adequate evidence on the harms associated with the diagnostic evaluation used to guide treatment decisions (liver biopsy). The harms of liver biopsy include bleeding, infection, and severe pain, and occur in approximately 1% of persons who have a liver biopsy. The USPSTF found adequate evidence that antiviral therapy regimens are associated with a high rate of harms, such as fatigue, headache, influenza-like symptoms, hematologic events, and rash. However, antiviral therapy is given for a defined duration, serious adverse events are uncommon, and adverse events are self-limited and typically resolve after treatment is discontinued.

The views expressed in this work are those of the authors, and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the U.S. government.

SOURCES

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