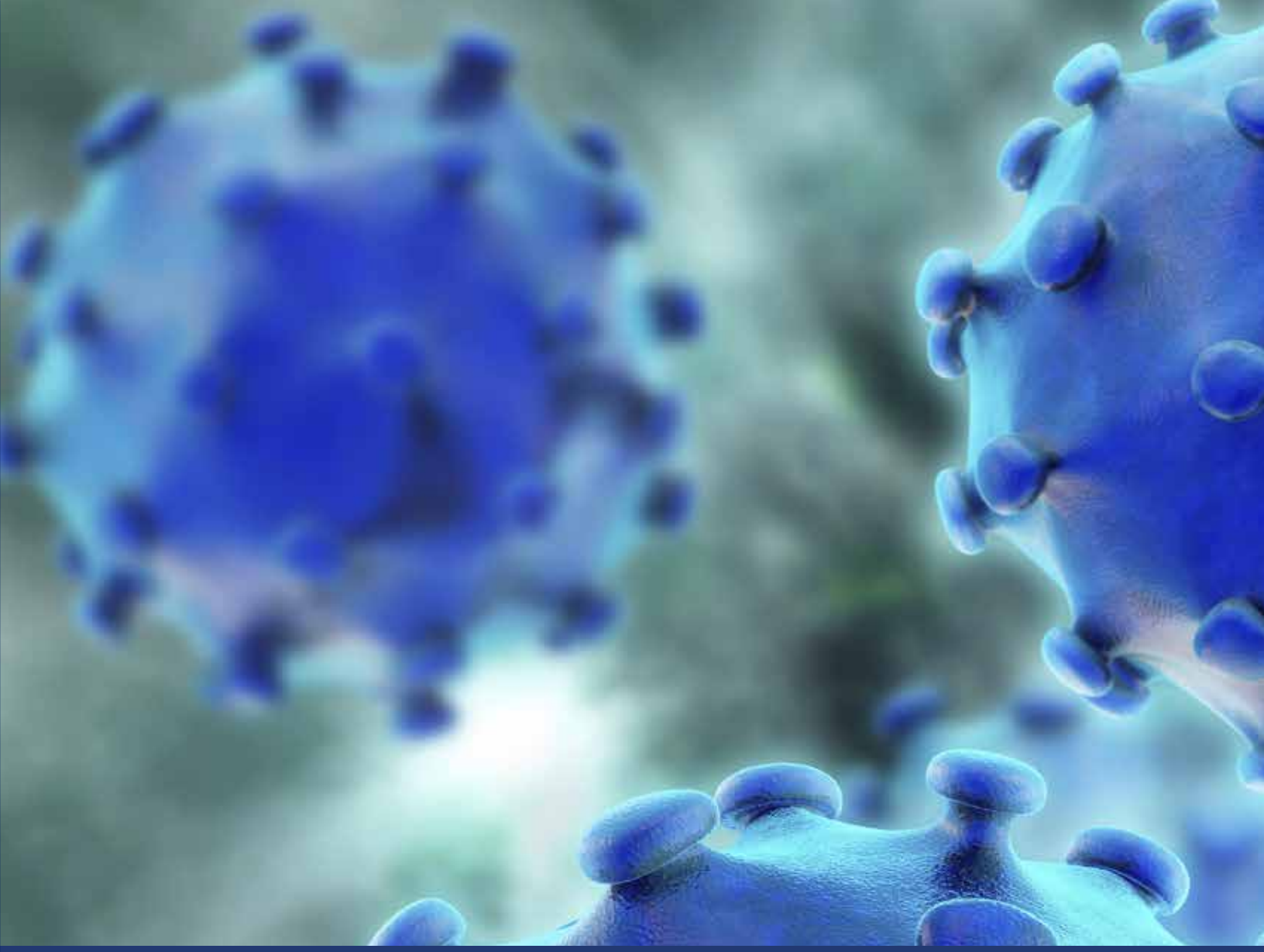

EMERGING CLINICAL ISSUE:

HEPATITIS C INFECTION IN HIV-INFECTED MEN WHO HAVE SEX WITH MEN

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NATIONAL LGBT HEALTH EDUCATION CENTER
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INTRODUCTION

Approximately 3.2 million individuals in the United States are infected with chronic hepatitis C (HCV) infection.[1] While injection drug use is the most common mode of transmission, growing evidence indicates that the virus is also being spread through sexual contact, particularly among HIV-infected men who have sex with men (MSM). If left untreated, HCV can lead to cirrhosis, end-stage liver disease, and death; HIV facilitates the development of these complications. This clinical brief reviews what is known about the epidemiology of HCV among HIV-infected MSM, as well as current screening, treatment, and prevention recommendations for HCV.

EPIDEMIOLOGY OF HCV IN MSM

HCV is primarily transmitted via exposure to infected blood; injection drug use is the most common means of transmission, but spread has also occurred from blood transfusions before the introduction of blood donor screening in 1992 or inadvertent needle sticks in health care settings.

Sexual transmission of HCV is possible but has historically been considered uncommon. One study of 500 monogamous, heterosexual couples estimated that the risk of HCV transmission was one per 190,000 sexual contacts.[2] However, recent data suggest that HCV transmission is more likely among MSM, particularly those with HIV infection.

In 2005, an outbreak of HCV among HIV-infected MSM in New York City was identified; none of the affected patients reported injection drug use or other risk factors for HCV. In a case-control analysis, engaging in unprotected receptive anal sex and having sex in conjunction with methamphetamine use emerged as risk factors for HCV.[3] A subsequent single-center analysis of HIV-infected MSM estimated an annual incidence of 1.63 per 100 persons in this population.[4] In a larger, prospective study of both HIV-infected and HIV-uninfected MSM, risk factors for HCV acquisition included older age, HIV infection, excessive alcohol use, hepatitis B infection, syphilis, and unprotected receptive anal intercourse with multiple male partners.[5] Among those with HIV and CD4 cell counts less than 500 cells/mm3, the risk of HCV increased as the CD4 count declined.

The incidence of HCV in HIV-infected MSM may be rising; one prospective cohort study documented an 18-fold increase in the incidence of HCV among HIV-infected MSM between 1998 and 2011 but not among injection drug users or heterosexual individuals with HIV during the same period.[6]

SCREENING FOR HCV IN MSM

HCV screening for all HIV-infected MSM is recommended by the HIV Medicine Association and the World Health Organization.7,8 Although the United States Preventive Services Task Force (USPSTF) statement on HCV screening does not explicitly mention HIV-infected MSM, the task force recommends screening periodically for persons at ongoing risk and once for all adults in the United States born between the years 1945 and 1965 (the so-called "baby boomer" generation), due to the higher prevalence of HCV in this cohort.9 As a USPSTF grade B recommendation, coverage of HCV screening by health insurance is mandated as a routine preventive service under the Affordable Care Act. The optimal frequency of screening is not clear; however, we recommend HCV testing for any new elevation in hepatic transaminases in HIV-infected MSM.

TREATMENT OF HCV IN MSM

The goal of HCV treatment is to eradicate the infection and prevent the development of complications, including liver failure and hepatocellular carcinoma. Treatment of HCV has historically relied upon ribavirin and injectable interferon, though this approach was problematic for many patients due to the year-long duration of therapy, the burden of side effects, and the failure of the treatment to eradicate the virus in many cases. Recently, novel anti-HCV agents have been approved for use, and several others are in development; these treatments are more efficacious, better tolerated, and of shorter duration than interferon and ribavirin dual therapy. In most cases, treatment with the newer regimens is successful in 80% or more of cases.

The choice of drug regimen for HCV is currently influenced by the genotype of the virus, whether or not the patient has failed prior treatment for HCV, and the presence of comorbidities such as decompensated cirrhosis. The American Association for the Study of Liver Diseases and the Infectious Disease Society of America have jointly published preliminary guidance on HCV treatment for various patient populations, emphasizing that the guidelines are likely to evolve as newer treatments become available.[10] Recommendations for treatment-naïve individuals with genotype 1 infection, the most common genotype in the United States, are shown in the table.

Other recommended aspects of HCV care include vaccination against hepatitis A and B viruses in those without pre-existing immunity and abdominal ultrasound screening for hepatocellular carcinoma every 6 months in those with cirrhosis.

Post-exposure prophylaxis for HCV has historically not been recommended due to the toxicity and poor efficacy of HCV treatment. With the advent of new therapies, post-exposure prophylaxis warrants re-evaluation, though the high success rate of treatment for established infection may render post-exposure prophylaxis unnecessary.

The Department of Health and Human Services' Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis provides additional recommendations on operationalizing screening and treatment for individuals with HCV.[11]

RECOMMENDATIONS FOR TREATMENT-NAÏVE INDIVIDUALS WITH HCV GENOTYPE 1 INFECTION*

	REGIMEN	DURATION
PREFERRED	Sofosbuvir + ribavirin + pegylated interferon	12 weeks
ALTERNATE†	Sofosbuvir + simeprevir ± ribavirin	12 weeks
ALTERNATE††	Simeprevir + ribavirin + pegylated interferon	24 weeks (simeprevir for first 12 weeks only)
ALTERNATE†**	Sofosbuvir + ribavirin	24 weeks

*Adapted from www.hcvguidelines.org
†For interferon-ineligible patients
††For genotype 1a patients, the Q80K polymorphism should be excluded prior to treatment with this regimen
**Less effective than the other regimens, particularly in those with underlying cirrhosis

PREVENTION AND EDUCATION

Research suggests that appropriate use of condoms can prevent sexual transmission of HCV.[6] Providers will want to find opportunities to educate their HIV-infected MSM patients about HCV and discuss the importance of condom use to prevent infection. Some of these patients, such as those with undetectable HIV viral loads, or those who have partners who are also HIV-infected, may have stopped using condoms and may need additional counseling and education on the risks of unprotected sex in spreading HCV and other sexually transmitted infections.

BARRIERS TO ACCESSING CARE

Although effective methods for prevention, diagnosis, and treatment of HCV now exist, some at-risk individuals face multiple barriers to accessing and remaining in care. Research has found that people infected with HCV are more likely to be uninsured and living in poverty, both of which serve as significant financial barriers to care.[12] Other patient barriers to HCV care include needing to travel long distances to see a provider, lacking access to professionals competent in HCV care, avoiding care due to the stigma associated with an HCV diagnosis, and having untreated depression, substance abuse, or other behavioral health issues.[13]

COST AND REIMBURSEMENT

The cost of treatment is considerable and may be a barrier to controlling HCV infection in the United States. For instance, a 12-week course of sofosbuvir, one component of recommended treatment regimens for genotype 1 infection, costs approximately $84,000, or roughly $1,000 per pill. While this treatment has a high rate of cure and can thus prevent the development of costly complications of liver disease in the future, programs such as Medicare and Medicaid may not be able to afford the high up-front cost of these drugs. One analysis focused on the state of California found that treatment of all eligible individuals would cost more than 18 billion dollars and that this investment would not be recouped through lowered rates of medical complications for more than 20 years.[14]

SUMMARY

MSM with HIV constitute an emerging risk group for HCV, as the virus can be transmitted via unprotected anal intercourse in this population. The rising incidence of HCV in HIV-infected MSM is particularly concerning, as HIV accelerates the development of complications from HCV. Providers may want to educate and counsel their HIV-infected MSM patients about preventing sexual transmission of HCV through condom use. No national screening recommendations for HCV explicitly mention MSM, though screening is recommended for all individuals with HIV infection. The development of new, oral anti-HCV drugs has revolutionized treatment; now, many patients can be cured with 12 weeks of HCV therapy. However, the cost of treatment is high, and some patients have difficulty accessing and remaining in care, all of which can impede control of HCV in the United States.

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