The latest on hepatitis C infection in BC

Hepatitis C virus (HCV) infection affects about 1.5% of British Columbians. The incubation period is usually 6 to 9 weeks. However over 80% of persons acutely infected with HCV are asymptomatic and may have undiagnosed HCV infection for decades. Cirrhosis or end-stage liver disease develops in 10% to 20% of people with chronic HCV infection after 20 years, and 1% to 5% will develop hepatocellular carcinoma or require a liver transplant.

Diagnosis

HCV infection is diagnosed by detection of HCV antibody using enzyme-immunoassay. Anti-HCV usually persists even when the virus is cleared, therefore a polymerase chain reaction (PCR) test should be performed to determine if the infection has resolved or is chronic. The qualitative PCR is more sensitive and is the preferred test for identifying active infection; the quantitative PCR measures viral load in order to assess treatment response.

Epidemiology and transmission

More than 58 000 anti-HCV reactive individuals have been reported since infection became notifiable in BC in 1992. As 25% (15% to 45%) of those infected with HCV clear the virus spontaneously within 6 months, an estimated 43 000 British Columbians are chronically infected and an additional 20 000 people remain unaware of their infection. Although the annual rate of HCV infections reported in BC has declined since the peak in 1997, it remains twice that of Canada's. Approximately 2800 HCV cases were reported in 2006. The reported rate of HCV infection in males is twice that of females, except in younger age groups (15 to 24 years) where the female rates exceed those of males.[1] Reported cases include those with recent infections identified through testing persons at risk as well as people who were infected years ago and who may be developing symptoms of liver disease.

HCV is potentially curable, but access to treatment may be limited and treatment may have considerable side effects.

About 10% of existing HCV cases were transmitted through blood products. Since anti-HCV testing became available in 1990 and PCR in 1999, the current risk of transmission through blood products is < 1 in 2 million per unit. The vast majority of new infections (80% to 90%) are transmitted through using contaminated illicit drug paraphernalia. Cohort studies have found HCV infection is associated with duration of injecting, Aboriginal ancestry, and sex trade work. Young injectors (aged < 25) have an alarmingly high HCV incidence rate of 37.3 per 100 person-years.[2] The risk of transmission through needle-stick injury is about 2%. Transmission can occur through non-sterile piercing or tattooing. Vertical transmission occurs in about 6% of infants born to HCV-infected mothers but may be higher if the mother is HIV co-infected.[3] Maternal antibodies cross the placenta and may persist for 12 to 18 months. Therefore neonatal HCV infection is diagnosed by qualitative PCR testing at about 6 weeks.

Immunizations

While there is no vaccine for HCV, superinfection with hepatitis A and B viruses (HAV and HBV) can have serious consequences for persons with chronic HCV infection. Routine reflex testing for anti-HAV and anti-HBV identifies patients who may be susceptible and should receive appropriate hepatitis vaccines. Post-HAV immunization serology is not recommended as the immune response to the vaccine is excellent and antibodies produced by the vaccine may be lower than the threshold of detection. HBV vaccine response may be reduced in persons with cirrhosis,[4] so HBV vaccine should be administered early in HCV infection. Pneumococcal and annual influenza vaccines are also recommended in persons with HCV infection.

Treatment

HCV is potentially curable, but access to treatment may be limited and treatment may have considerable side effects. The BCMA/Ministry of Health Guidelines are being revised based on new Canadian guidelines.[5] The current recommended antiviral treatment for HCV is combination therapy of pegylated interferon and ribavirin; treatment duration and response depends on the infecting HCV genotype. Following 24 weeks of treatment patients infected with HCV genotypes 2 and 3 have an 80% sustained virologic response: that is, a negative HCV-RNA 24 weeks after therapy is completed—which is consistent with a

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virological cure. For those infected with HCV genotypes 1, 4, 5, and 6, about 45% will achieve a sustained virologic response with 48 weeks of therapy.[6]

Conclusion

Many people in BC have received a diagnosis of HCV but have not undergone PCR testing, so they do not know if their infection has cleared; others are unaware of their HCV infection. The burden of HCV in BC should be addressed through prevention of infection in high-risk youth and treatment of persons with chronic infection to prevent disease progression.

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