MIDDLESEX-LONDON HEALTH UNIT

FACT SHEET fact sheet

Interpretation of Hepatitis Serology

Hepatitis A

Anti-HAV IgM (IgM antibody to hepatitis A):
Indicates current or recent infection with hepatitis A. IgM anti-HAV is usually present 5-10 days before symptom onset and declines to undetectable levels within six months of initial infection. This is the test that should be ordered for a patient who is suspected of having acute hepatitis A.

Anti-HAV IgG (IgG antibody to hepatitis A):
Indicates immunity to hepatitis A, either from past infection or vaccination. Anti-HAV IgG is not a reliable indicator of immunity induced by vaccine and may be negative after immunization. This test is not recommended post vaccination as the vaccine generally induces a very good immune response and immunity after vaccination can be assumed.

HAV IgM and IgG; total anti-HAV (IgM and IgG antibody to hepatitis A):
Occasionally, the laboratory reports the IgG and IgM together. This result is not informative, as it does not allow you to determine if this is an acute infection or if the patient is immune to hepatitis A.

Hepatitis B

HBsAg or Surface antigen (hepatitis B surface antigen):
Indicates either acute hepatitis B infection or, more often, a carrier of hepatitis B. These individuals are infectious to others. This is the test that should be ordered for prenatal screening. Babies born to mothers who are HBsAg positive require hepatitis B Immune Globulin (HBIG) and hepatitis B vaccine series beginning at birth. Patients who are HBsAg positive require follow-up testing, which includes IgM anti-HBc, HBeAg, anti-HBe and serum transaminases, to determine appropriate clinical management.

Anti-HBs or HBsAb or surface antibody (antibody to hepatitis B surface antigen):
Indicates immunity to hepatitis B, from either exposure to the virus or from vaccination. Anti-HBs will usually not be present with HBsAg. Anti-HBs is the test that should be ordered to assess whether the vaccine has been effective. A titre of greater than or equal to 10 IU/L indicates protection against hepatitis B.

Anti-HBc or IgG anti-HBc or HBcAb or Core antibody (IgG antibody to hepatitis B core antigen):
Indicates that the person either has or had hepatitis B. This antibody develops after exposure to the hepatitis B virus and persists for many years. It does not develop after immunization with hepatitis B vaccine. Anti-HBc does not tell you whether the patient is still infectious (HBsAg positive) or whether they have developed immunity to the virus (anti-HBs positive) since anti-HBc will be present in both conditions.

IgM anti-HBc or anti-HBc IgM (IgM antibody to hepatitis B core antigen):
Indicates acute or recent infection with hepatitis B. This is the test that should be ordered (along with HBsAg) when acute hepatitis B is suspected. This marker usually disappears within six months of initial infection.

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London Office
50 King St., London, ON N6A 5L7
tel: (519) 663 - 5317 fax: (519) 663 - 9581

Strathroy Office - Kenwick Mall
51 Front St. E., Strathroy, ON N7G 1Y5
tel: (519) 245 - 3230 fax: (519) 245 - 4772

HBeAg (Hepatitis B e antigen):
Will be present in a person who is also HBsAg positive. HBeAg appears in the acute stage of infection and in some patients will persist for decades. HBeAg indicates a person who is highly infectious to others. All HBeAg positive patients should be referred to a hepatologist for further follow-up.

Anti-HBe (Antibody to hepatitis B e antigen):
Indicates a person who was HBeAg positive but has developed immunity to this antigen. If they are still HBsAg positive then they are still infectious to others but less infectious than when they were also HBeAg positive.

HBV DNA by PCR
This is a research assay used to determine viral load and assess need for treatment.

Hepatitis C

Anti-HCV (Antibody to the hepatitis C virus):
Indicates recent or past infection with hepatitis C virus. Does not indicate immunity. Most people with anti-HCV will also have hepatitis C virus in their blood (HCV RNA positive) and, therefore, are capable of transmitting this infection to others.

HCV RNA by PCR
Quantitative HCV RNA measures hepatitis C viral load. This test is used to measure the extent of viremia in anti-HCV positive patients who are on treatment or who are being considered for treatment.

Qualitative HCV RNA is used to determine the presence or absence of hepatitis C virus in blood. HCV RNA can be detected in serum or plasma within 1-2 weeks after exposure to the virus. HCV RNA can be detected intermittently; therefore, a single negative result in an anti-HCV positive individual is not enough to rule out infection. Repeat testing is recommended 6-12 months later. In infants born to anti-HCV positive mothers, HCV RNA by PCR can be ordered at 1-2 months of age; a positive HCV RNA by PCR indicates infection in the infant, unlike the anti-HCV, which may persist in the infant for up to 18 months from maternal transfer.

For more information contact the Communicable Disease Division of the Middlesex-London Health Unit at (519) 663-5317 ext. 2330 or go to www.healthunit.com

References:

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