

Hepatitis C

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Learning Objectives

1. Investigate and correctly classify a physician-reported case of acute Hepatitis C Viral infection (HCV)
2. Differentiate between laboratory tests used to detect HCV infection
3. Know the responsibilities of the public health nurse to the client diagnosed with HCV

Hepatitis C, Acute

CDC Case Definition, 2011

Clinical Case Definition:

An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis, and either a) jaundice/dark urine, or b) serum alanine aminotransferase (ALT) levels > 400 IU/L.

Laboratory criteria for diagnosis

One or more of the following three criteria:

1. Antibodies to hepatitis C virus (anti-HCV) screening-test- positive with a signal to cut-off ratio OR
2. Hepatitis C Virus Recombinant Immunoblot Assay (HCV RIBA) positive, OR
3. Nucleic Acid Test (NAT) for HCV RNA positive.

AND, meets the following two criteria:

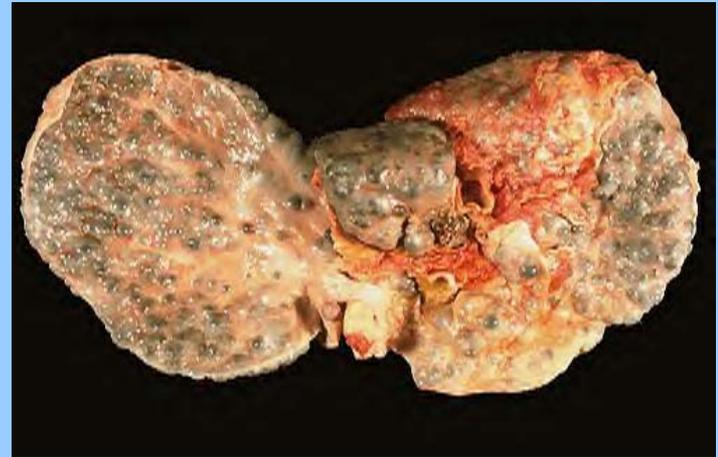
1. IgM antibody to hepatitis A virus (IgM anti-HAV) negative AND
2. IgM antibody to hepatitis B core antigen (IgM anti-HBc) negative.

Confirmed: a case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis C.

The Liver

Liver functions include:

- Digestion
- Metabolism
- Storage
- Protein synthesis
- Detoxification



Hepatitis C Virus Infection - HCV

- Identification in 1989
- Transmission via direct blood to blood contact
- 10x more infectious than HIV
- Progression over 20-30 years
- 55-85% develop chronic infection
- NO VACCINE

History of HCV Infection

Of every 100 persons infected with HCV,
approximately

75–85 will go on to develop chronic infection

60–70 will go on to develop chronic liver
disease

5–20 will go on to develop cirrhosis over a
period of 20–30 years

1–5 will die from the consequences of
chronic infection (liver cancer or
cirrhosis)

Hepatitis C Facts



- 4-5 million people in USA infected with HCV
- 150,000+ people in NC are estimated to be infected with HCV
- HCV infected outnumber HIV/AIDS infected $\approx 5:1$

Modes of Transmission

Injecting drug use 60%

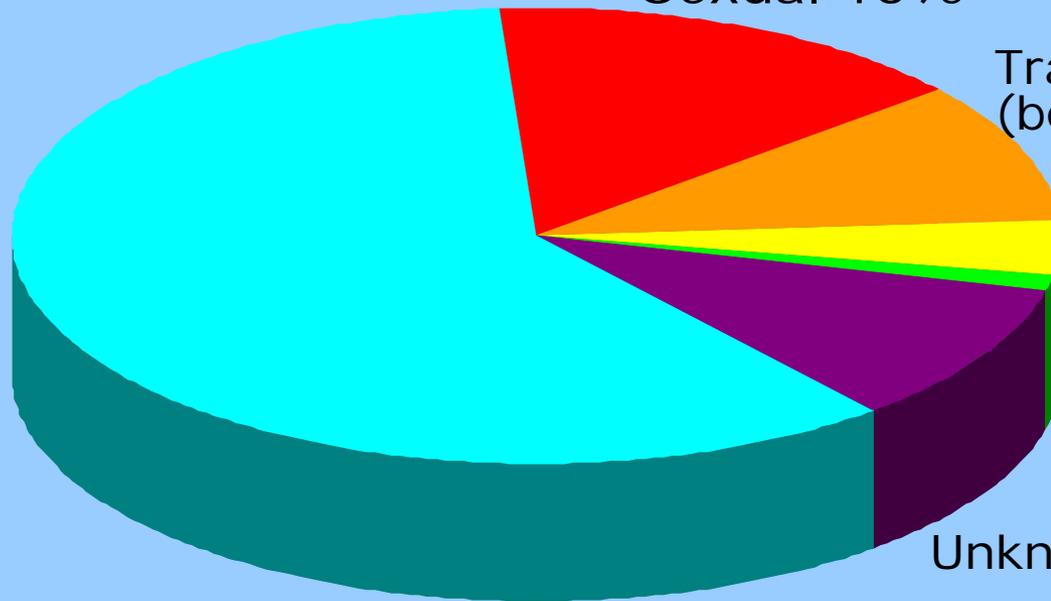
Sexual 15%

Transfusion 10%
(before screening)

Occupational 4%

Other 1%*

Unknown 10%



* Nosocomial; iatrogenic; perinatal



Signs and Symptoms

Symptoms, if present, may include

- Nausea and vomiting
- Abdominal pain
- Fatigue
- Loss of appetite
- Joint pain
- Jaundice



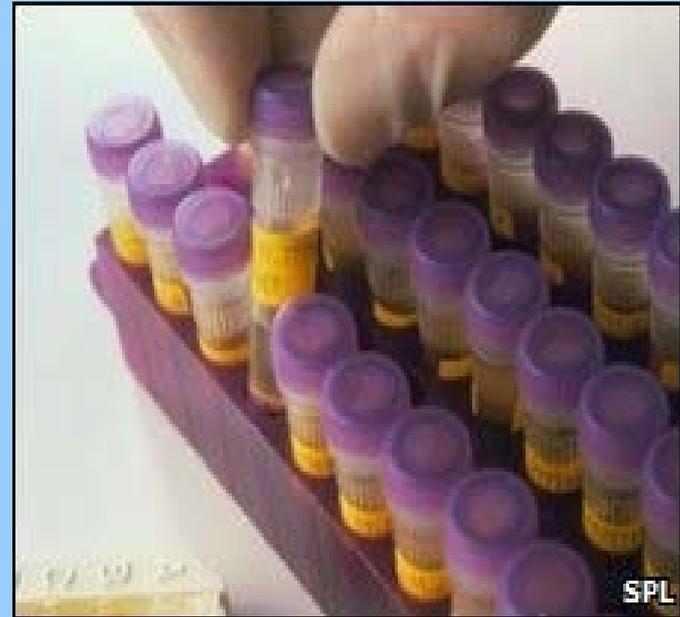
Who Should be Tested?

- Injection drug use (even one time)
- Blood transfusion before July 1992
- Long-term dialysis
- Occupational exposures
- Children born to HCV-infected mothers
- Persons with signs/symptoms of liver disease
- HIV Infected



HCV Laboratory Tests

- Anti-HCV (EIA)
- RIBA
- HCV RNA PCR



Other Diagnostic Indicators



- Liver biopsy
- Liver enzymes
- Genotype

Pharmacologic Treatment

- Pegylated interferon
Weekly injection
- Ribavirin
Daily oral dose



Pharmacological Treatment Goal

Induce a Sustained Viral Response (SVR)

Even in the absence of SVR, treatment can decrease liver inflammation and slow the progression of liver disease.

Medication Side Effects

INTERFERON

- fatigue
- loss of appetite
- mood dysfunction-depression
- flu-like symptoms
- insomnia
- skin rashes, itching
- thrombocytopenia

RIBAVIRIN

- anemia
- shortness of breath
- insomnia
- loss of appetite
- rash, itching
- throat irritation/cough
- birth defects

Best Practice Guidelines For the Communicable Disease Nurse



HCV Control Measures

- Physicians are required by law to give HCV control measures to patients diagnosed with HCV Infection.
- NCAC addresses specific control measures for HIV and HBV
- HCV+ persons are *not* required by law to disclose their status to employers.
- HCV+ persons can *not* be excluded from: work, school, play, child-care or other settings on the basis of their HCV status.

HCV Control Measures

CDC recommends:

- Covering cuts and sores on the skin
- Never sharing items that might have blood on them
 - * personal care (razors, toothbrushes)
 - * home therapy (needles)
- Never donating blood, body organs, other tissue



Sexual Transmission of HCV



Risk low, but increases in the presence of HIV and high risk sexual behaviors

Pregnancy and HCV Infection

- Test pregnant females only if high risk
- Risk of perinatal transmission is 4%
- HCV not transmitted through breast milk
- Infants may be tested at 18 months to determine HCV status

Counseling Messages



- Avoid alcohol or reduce intake
- Eat a healthy diet, exercise
- Get vaccinated against Hepatitis A and B
- Develop support system

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Summary

- Education
- Control measures
- Vaccination
- Reporting



Resources

1. NC Communicable Disease Manual,
<http://www.epi.state.nc.us/epi/gcdc/manual/toc.html>
2. Hepatitis C Support Project, www.hcvadvocate.org
3. Institute of Medicine Report, “Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C”, webinar,
<http://www.cdc.gov/hepatitis/IOMnews.htm>

References

1. The US Centers for Disease Control and Prevention; National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, www.cdc.gov/hepatitis.
2. Swan, Tracey, and Raymond, Daniel, “Hepatitis C Virus and HIV/HCV Co-Infection: A Critical Review of Research and Treatment”, Treatment Action Group, July, 2004.
3. NC General Statute, GS, Article 6, Communicable Disease
4. NC General Statute, GS, Article 2, Powers and Duties of the Local Health Director
5. NC Administrative Code, Chapter 41, subchapter 41A-Communicable Disease Control