Hepatitis A

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Learning Objectives

• Recognize the impact of vaccination on hepatitis A epidemiology in the United States

• Identify common risk factors for hepatitis A

• Determine who needs prophylaxis after exposure to a person with hepatitis A
Hepatitis A Virus (HAV)

• Common cause of acute liver disease
  – 32,000 estimated new infections in 2006

• 1/3 of US population has evidence of infection
  – ¾ of all persons > 70 years of age

NHANES III, 1988-1994
Hepatitis A Vaccine

- Available since 1995
- Recommended for
  - High-risk groups (1996)
  - Children in high-incidence areas (1999)
  - All children 12–23 months of age (2006)
  - Post-exposure prophylaxis* (2007)
  - Household members/close contacts of international adoptees (2009)

* Vaccine is for ages 1 – 40 with no contraindications
Hepatitis A Incidence, United States 1980–2007

1987-1997: Rate = 11

2007: Rate = 1

Adapted from CDC slide set
Hepatitis A in Public Health

• One of the most frequently reported diseases nationally

• Major economic impact
  – Cost to identify contacts
  – Cost to provide prophylaxis
HAV Epidemiology

- Average incubation period, 28 days (range 15–50)

- Long infectious period
  - 2 weeks before jaundice onset – 1 week after * or *
  - 1 week before – 2 weeks after onset of other symptoms (if no jaundice)
HAV Transmission

- Fecal-oral
  - Person-to-person
  - Common-source (~10%)

- Reported risk factors
  - Travel to highly endemic countries
    - Mexico, Central and South America
  - Contact to case
  - MSM
  - IVDU
  - No risk factor identified (most cases)
HAV Clinical Features

- Usually asymptomatic in children
  - Important reservoir of infection
- >75% of adults develop jaundice
- >30% of patients require hospitalization
- <1% of cases result in death
Events in Hepatitis A Virus Infection

Adapted from CDC slide set
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Clinical illness

Exposure

ALT

HAV in stool

IgM

IgG

Week

Response

Adapted from CDC slide set
Clinical description
An acute illness with: discrete onset of symptoms, and jaundice/dark urine or elevated serum aminotransferase levels (ALT) > 200 IU/L

Laboratory criteria for diagnosis
Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive

Case Classification
Confirmed:
• a case that meets the clinical case definition and is laboratory confirmed, or
• a case that meets the clinical case definition and occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms).
Case Investigation

1. Clinical features
   • Discrete onset of symptoms
   • Jaundice/dark urine or elevated ALT > 200 IU/L

2. Serology results
   • Can confirm at State Lab if needed

3. Risk factors
   • Include travel, food history

4. Contacts
Post-Exposure Prophylaxis

• Consider for:
  – Household and sexual contacts
  – Child care center staff and attendees if
    • ≥1 cases in staff or attendees, or
    • ≥2 cases in households of attendees
  – If case identified in a food handler: Other food handlers and patrons – selected circumstances

• Vaccine for ages 1–40; immune globulin for others

• Not effective >2 weeks after exposure
Post-Exposure Prophylaxis

• Contact Regional CD Nurse Consultant or CDB Epidemiologist on Call
  – Coordinate with Immunization Branch

• Contacts to the case should call if they develop symptoms
Infectious Period: Jaundice

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Jaundice onset

Notification
Infectious Period: No Jaundice

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Symptom onset: 15
Notification: 31
Take Home Points

• Hepatitis A decreased dramatically due to vaccine; still a major public health problem

• International travel is the most commonly identified risk factor

• Decisions about post-exposure prophylaxis should be based on type of exposure, infectious period, and time since exposure
References

• CDC Division of Viral Hepatitis website, www.cdc.gov/hepatitis

• Prevention of Hepatitis A through Active or Passive Immunization: Recommendations of the ACIP. 2006:55(RR07);1-23. Available from: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5507a1.htm