Hepatitis A Webinar Objectives

At the conclusion of the webinar, participants will be able to:

- Discuss the clinical presentation and natural history of hepatitis A.
- Interpret serological test results for hepatitis A.
- List what populations require immediate reporting to the Health Department if hepatitis A is suspected.
- List hepatitis A outbreak vaccine priority groups.

What’s Hepatitis A?

- Highly contagious
  - spreads person-to-person
  - liver disease
- Caused by the hepatitis A virus—RNA picornavirus
- Symptoms can last for a few weeks to several months
- Can lead to severe outcomes including liver damage and death
- Acute infection
- Lifelong immunity after infection

Disclosures

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Epidemiology

• Reservoir is humans
• Primary mode of transmission is fecal-oral
  – Person-to-person, consumption of contaminated food or water
  – Bloodborne transmission can occur although rare
• Average incubation period is 28 days (15–50 days)
• Infectious period is 2 weeks prior to 1 week after onset of symptoms
  – Post-exposure prophylaxis (PEP) with vaccine or immune globulin is effective if given ≤ 2 weeks after exposure

How Can You Prevent Hepatitis A?

• Two doses of hepatitis A vaccine
  – Has been recommended for all children in Los Angeles County since 1999
  – Many adults are not protected and are vulnerable to infection
• Improved sanitation
• Handwashing
  – Before eating or preparing food
  – After changing diapers
  – After using the bathroom

Incidence of Hepatitis A

Hepatitis A in LA County

San Diego Hepatitis A Outbreak

• First case had onset on November 24, 2016
• Spread has been very rapid due to poor sanitary conditions
• As of October 31, 2017
  – 536 cases
  – 369 (68.8%) hospitalizations
  – 20 (3.7%) deaths
• 80% of outbreak patients are homeless and/or used illicit drugs.
• High fatality rate most likely reflects prior illness in the affected population.

San Diego Hepatitis A Outbreak

• Cases have taken place in people who:
  – Resided in facilities with shared restrooms
    • Jails
    • Residential drug treatment facilities
    • Single room occupancy hotels
    • Assisted living facilities
  – There have been cases among volunteers at homeless shelters, sanitation workers, healthcare workers, and a parole officer
• Has already spread to Santa Cruz with 72 confirmed cases
Symptoms of Hepatitis

- Fever/Chills/Headache
- Malaise/Fatigue
- Anorexia
- Nausea/Vomiting/Diarrhea
- Abdominal Pain
- Nothing at all! (20-30% of adults)

Liver involvement
- Jaundice
- Dark urine
- Light colored stools

Symptoms of Hepatitis A continued

- In children <6, 70% of infections will be asymptomatic and if symptomatic will have no jaundice
- In adults 70% of infections will be symptomatic (though 30% still asymptomatic)
- Patients can be infections for 2 weeks before jaundice and 1 week after jaundice
- Symptoms generally <20 months though 10-15% may have prolonged or relapsing illness
- 20% hospitalized
- <1% fatality rate

San Diego Outbreak

- High hospitalization rate: 70%
- High case fatality rate 4%
- Most likely due to underlying illness of population at risk
- Patients at risk for severe disease include:
  - Elderly
  - Those with underlying liver disease especially
    - Chronic hepatitis C or B
    - Alcoholic liver disease

Men who have Sex with Men (MSM)

- Included in ACIP Guidelines
  - Always at higher risk
- Outbreaks are occurring Internationally and nationally
  - Europe
  - Chile
  - Australia
  - New York City
  - Colorado
  - San Francisco

Current Outbreak in LA County

- 14 outbreak associated cases – includes those associated with the homeless or IDU
  - 1 from San Diego to a board and care
  - 1 from San Diego to a mental health facility (3 secondary cases)
  - 5 homeless persons came to LA from San Diego and Santa Cruz and lived on street prior to admissions
  - 2 cases among homeless or IDU are LA County residents without clear links to San Diego or Santa Cruz
  - 2 cases were IDU only
Hepatitis A among MSM

- Not surprisingly increase beginning among MSM
- 12 cases to date this year, 9 in all of last year
- Estimated 400,000 MSM in LA County
- Persons with HIV
  - May have longer course of illness
  - May see an increase in HIV viral load
  - May have to stop HIV medications that are hepatotoxic

Case Definition of Acute Hepatitis A

Clinical criteria

- An acute illness with discrete onset of symptoms (fever, headache, malaise, anorexia, nausea, vomiting, diarrhea and abdominal pain)

Evidence of liver injury

- Jaundice or elevated serum aminotransferase (ALT or AST) levels

AND

Positive IgM antibody to hepatitis A (IgM anti-HAV)

or

Epidemiologic link with person who has laboratory confirmed illness

Hepatitis A IgM

- Indicates acute disease
- Reportable
- Can last ~6 months after acute disease
- Can occur after vaccination
- Non-specific
  - Many false + cases
- Should NOT be used for routine screening
- Order when
  - Patient is symptomatic or
  - Has elevated LFTs

Hepatitis A Total Antibody Test

- Anti-HAV total reflects the presence of both IgM and IgG
- Useful to show prior disease or immunity
- Must order IgM to determine if patient has acute disease
- Not Reportable

<table>
<thead>
<tr>
<th></th>
<th>Early Acute 0-14 days</th>
<th>Acute 3-6 months</th>
<th>Recovery years</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgM anti-HAV</td>
<td>Positive</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>Total anti-HAV</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Sensitive Occupation Situation

- Worked during infectious period?
  - 14 days prior - 7 days after onset
- Call LAC DPH ASAP
  - Date of onset
  - Symptoms
    - Diarrhea
  - Where did case work-address, phone #
  - When did case work? which days and shifts?
  - What were the job duties? cook, dishwasher, hostess etc.
Was patient homeless or IDU?

- Call LAC DPH ASAP – preferably while patient in facility
  - Date of onset
  - Symptoms
    - Diarrhea
  - Where did patient sleep/hangout/eat
  - Was patient in San Diego or Santa Cruz?
    - When and how did s/he arrive
    - Where has s/he been living
  - Get as much information about contacts as possible

Reporting

- Suspect cases of HAV should be reported immediately
  - by phone,
  - while the patient is still at the clinical facility, in order to facilitate an on-site interview by a public health investigator and prophylaxis of contacts;

   Phone 888-397-3993.
   After hours call: 213-974-1234

Post Exposure Prophylaxis (PEP)

- PEP for contacts of cases
  - Provide PEP within 2 weeks of exposure
  - Vaccination recommended in all persons >1 year old
  - For persons at risk of severe infection add immune globulin
    - For older people and especially for those with serious immune compromise (HIV with low CD4, Chemotherapy, high dose steroids) can consider Gamma globulin
    - Also for person with serious underlying liver disease
    - Note: increased dose for IM IG to 0.1 mL/kg

Current ACIP Vaccine Recommendations

- All Children 12-23 months of age
- Persons traveling to countries with high or intermediate endemicity of Hepatitis A
- MSM
- Use of injection and non-injection drugs
- Persons who have occupational risk factors such as working with HAV positive primates or work with the virus in a research laboratory workers
- Persons with clotting factor disorders
- Persons with chronic liver disease
- As recommended during outbreaks

Vaccine Recommendations in Outbreak

- Homeless persons
- Recreational drug users
- Food Handlers who serve homeless persons
- Those who work with homeless and have close physical contact with them
- Sanitation or janitorial workers who clean homeless encampments or bathrooms
- Standard precautions and hand hygiene should protect HCW

Vaccine Supply

- At-risk adults
  - homeless individuals
  - persons with direct contact with these individuals
  - those who meet other ACIP-identified risk factors
    - chronic liver disease
    - men who have sex with men
    - travel to an endemic country
- Due to limited vaccine supply, persons who desire immunity but do not fall within one of these priority groups should not be vaccinated at this time, but can be considered for vaccination when supplies increase.
**Vaccine Supply**
- Hepatitis A/B vaccine (Twinrix)
  - Patients who are eligible for Hepatitis A and B vaccine should receive Twinrix
  - Twinrix is a 3 dose vaccine providing protection against both viruses.
  - Supplies are not known to be currently constrained.

**Prevention**

**Pre-exposure prophylaxis in LA County right now**
- Vaccine recommendation is 2 doses 6 months apart
- Even a single dose offers excellent protections
- Vaccinate persons who are homeless or use drugs
  - First dose highly immunogenic (98% for single Ag vaccine)
  - Free vaccine available from Public Health for the uninsured (see website for time/location of clinics); also covered by Medi-Cal and ADAP
- Consider vaccination for HCWs and persons who have ongoing close contact with the homeless and drug users
  - Especially those who prepare and serve food to the homeless

**Prevention: Pre-exposure Prophylaxis**

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**Prevention: Sanitation**

- Emphasize handwashing with soap and water
  - Depending on alcohol concentration & exposure times, hand sanitizer may be less effective
- Environmental cleaning
  - Disinfect bathrooms and surfaces with bleach (1:10 dilution), formulation of quaternary ammonium and HCl (toilet bowl cleaner), or 2% glutaraldehyde
- Reduce risky behaviors
  - Don’t share food, drink, eating utensils, smokes, towels, or toothbrushes with other peoples
  - Don’t have sex with someone who has hepatitis A

**Steps to Prevent Increased Numbers of Hepatitis A Cases**

- Promoting awareness and vaccination through media and social media
- Conducting health education and promoting vaccination
- Inspecting homeless encampments and other facilities to improve sanitation

**What is DPH Doing to Respond to the San Diego Outbreak?**
- Investigating all hepatitis A cases
- Providing vaccinations for all case contacts, homeless people, new jail inmates, active drug-users, and some service providers
- Educating clinicians and homeless service providers
Outbreak Response Plan

- Initial response will focus on aggressive vaccination and education in areas with early cases to prevent a larger outbreak.

Outbreak Response Plan

Surveillance, Epidemiology, and Healthcare Support
- Rapid response to cases
  - Investigate
  - Vaccinate contacts
- Housing for infectious patients

Public Information and Warning
- Via press, social media, and other efforts
- Outreach to the medical community

Outbreak Response Plan

Medical Countermeasures and Community Outreach
- Aggressive efforts at vaccination
  - Led by DPH and community partners including LAHSA and Housing for Health

Environmental Services
- Coordination with municipal services and other stakeholders on environmental intervention
- Training at detention centers and shelters

Where Can People at Risk Get Vaccinated?
- Personal providers
- DPH Outreach events
- Pharmacies
- DHS and DPH Clinics
  Dial 211 to locate a clinic.

Resources
- Website - publichealth.lacounty.gov/acd/Diseases/HepA.htm
- Consultations - Acute Communicable Disease Control Program
  - 213-240-7941, after hours: 213-974-1234
- Health alerts - Los Angeles Health Alert Network (LAHAN)
  - publichealth.lacounty.gov/lahan
- Hepatitis A article with CME - Rx for Prevention
  - rx.ph.lacounty.gov