ECHO Idaho: Opioid Addiction and Treatment

Outbreaks of Hepatitis A and Vaping-Related Lung Injury in Idaho: Implications for Care Providers
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The speakers have no financial relationships to disclose.
Learning Objectives

• The participant will understand the epidemiology of the current hepatitis A outbreak in Idaho
• The participant will be able to describe current recommendations for hepatitis A vaccination
• The participant will understand the epidemiology of vaping-associated lung injury in Idaho
• The participant will be able to describe how to counsel patients about avoiding vaping-associated lung injury
Actual Reports and Estimated Cases of Acute Hepatitis A Infection – United States, 2013-2017
Widespread Outbreaks of Acute Hepatitis A Infection – United States, 2016-2019

- Since outbreaks were first identified in 2016, 30 states publicly declared:
  - Cases: 28,111
  - Hospitalizations: 16,986 (60%)
  - Deaths: 284
Reports of Acute Hepatitis A Infection – Idaho, 1987-2019*

1999 – ACIP† recommends routine childhood hepatitis A vaccination in Idaho

* 2019 data are preliminary and current as of 11/12/19
† ACIP: Advisory Committee on Immunization Practices
Outbreak-associated Patient Geographic Distribution
Outbreak-associated Patient Demographics

Range: 3 to 71 years

Mean (Median): 44 (43) years

85% Male

78% Not Hispanic or Latino

87% White
Outbreak-associated Patient Clinical Characteristics

¾ report jaundice

49% hospitalized

Average ALT = 2,780 U/L
Average AST = 1,887 U/L
Outbreak-associated Patient Risk Factors

- Domestic Travel: 30
- MSM or MSMW: 24
- IVDU: 9
- Drug Use: 28
- Experienced Homelessness: 3

Number of Risk Factor-related Responses vs Total Number of Respondents
Hepatitis A
Transmission and Prevalence

• Highly contagious virus
• Usually transmitted through the fecal-oral route, either via direct person-to-person contact or through consumption of contaminated food or water
• Depending on environmental conditions, HAV can be stable in the environment for months!
• In 2017, there were an estimated 6,700 cases of hepatitis A in the United States
• In U.S.-born persons >= 20 years of age, the age-adjusted anti-HAV prevalence in 2007-2012 was 24.2%
Hepatitis A
Risk Factors

• Groups at higher risk of acquiring hepatitis A
  – People with direct contact with someone who has hepatitis A
  – Travelers to countries where hepatitis A is common
  – Men who have sexual contact with men
  – People who use drugs, both injection and non-injection drugs
  – Household members and caregivers of adopted children newly arriving from countries where hepatitis A is common
  – People with clotting factor disorders, such as hemophilia
  – People working with nonhuman primates
Hepatitis A
Clinical Manifestations and Diagnosis

- Self-limited disease, usually lasting several weeks but up to 6 months
- Severity can range from asymptomatic to fulminant hepatic failure (rare)
- Symptoms include: fever, fatigue, poor appetite, abdominal pain, n/v, diarrhea, jaundice, dark urine; children may be asymptomatic
- Average incubation period is 28 days (range: 15-50 days)
- Peak infectivity is in the 2-week period prior to onset of clinical illness
- Diagnosis is usually established by detection of IgM anti-HAV antibodies
- IgG antibodies produced in response to infection are associated with lifelong protective immunity
Source: Hepatitis A: CDC Viral Hepatitis Serology Training
Hepatitis A
Pre- and Post-exposure Prophylaxis and Treatment

• Pre-exposure prophylaxis
  – Beyond the scope of this presentation

• Post-exposure prophylaxis
  – Persons who have been exposed to HAV and who have not been vaccinated should be administered one dose of single-antigen hepatitis A vaccine or immune globulin (IG) as soon as possible, within 2 weeks of exposure. Guidelines vary by age and health status.

• Treatment of hepatitis A is generally supportive
Hepatitis A Prevention

• Hand hygiene!
• Vaccine preventable
  – Single-antigen hepatitis A vaccine given as 2 shots, 6 months apart
  – Combination vaccine with hepatitis A and hepatitis B given as 3 shots over 6 months (only licensed for individuals 18 years of age or older)
The CDC recommends that children be routinely vaccinated against hepatitis A.
Hepatitis A Prevention

• Advisory Committee on Immunization Practices (ACIP) also recommends vaccination for:
  – People with unstable housing or experiencing homelessness
  – Persons who are at increased risk of infection
    • Don’t forget travelers, MSM, users of injection and non-injection drugs!
  – Persons who are at increased risk for complications from hepatitis A including immunocompromised individuals and those with chronic liver disease
  – Any person wishing to obtain immunity
Hepatitis A Prevention

• ACIP June 2019 recommendations
  – ACIP recommends that all children and adolescents aged 2 through 18 years who have not previously received Hepatitis A vaccine be vaccinated routinely at any age (i.e., children and adolescents are recommended for catch-up vaccination)
  – ACIP recommends all persons with HIV aged >= 1 year be routinely vaccinated with Hepatitis A vaccine
  – These recommendations have been adopted by the CDC Director and will become official once published in MMWR
Hepatitis A

Where to get immunized?

CDHD is offering FREE hepatitis A vaccine (by appointment) to those who may be at a higher risk for contracting hepatitis A, including:

- People who have direct contact with someone with hepatitis A
- People living homeless or in transient living
- People who use recreational drugs (injection or non)
- Men who have sex with men
- Those who do not have health insurance (uninsured)
- Those whose insurance does not cover the entire cost of vaccine

Appointments are required. Please call 208-327-7400 to schedule a vaccine appointment.
Hepatitis A
Where to get immunized?
EVALI

• EVALI = e-cigarette, or vaping, product use-associated lung injury
• As of November 5, 2019, 2,051 cases of EVALI have been reported to the CDC from 49 states, D.C., and 1 U.S. territory
  – 39 deaths
• Among those patients with data available,
  – 70% are male
  – Median age is 24 years
• All have reported a history of using e-cigarette, or vaping, products
• Among patients with data available,
  – About 86% reported using THC-containing products
  – About 64% reported using nicotine-containing products
EVALI
Some Pearls of Clinical Evaluation

• Maintain high level of suspicion
  – Ask about use of e-cigarette, or vaping, products

• Patients likely to have respiratory symptoms (95%), gastrointestinal symptoms (77%), and constitutional symptoms (85%)

• Lung exam may be normal, even among patients with severe lung injury

• CXR should be obtained on all patients with a history of e-cigarette, or vaping, product use who have respiratory or gastrointestinal symptoms, particularly when accompanied by decreased O2 saturation
EVALI
Breaking News!

• Recent CDC analysis of bronchoalveolar lavage (BAL) fluid samples from 29 patients with EVALI whose fluid was submitted to the CDC from 10 states identified vitamin E acetate in all samples.

• This is the first time a potential chemical of concern has been detected in biologic samples from patients with EVALI

• Does not rule out possibility of other chemicals of concern contributing to EVALI
EVALI
Prevention Counseling

• Current CDC recommendations
  – Avoid e-cigarette, or vaping, products that contain THC
  – Avoid use of e-cigarette, or vaping, products that have been purchased off the street or modified
  – Consider refraining from use of all e-cigarette, or vaping, products
  – Adults using e-cigarettes to quit smoking should not go back to smoking cigarettes; consider using FDA-approved nicotine-replacement products
  – Monitor for symptoms of EVALI and seek medical attention if symptoms develop

• Irrespective of ongoing investigation
  – Youths, young adults, and women who are pregnant should not vape
Reports of E-cigarette or Vaping-associated Lung Injury (EVALI), Idaho

- 2,051 cases of EVALI reported to CDC as of November 5th from 49 states
- 39 deaths in 24 states and D.C.
Idaho EVALI Patient Geographic Distribution

• 10 reported cases of EVALI in Idaho

• All jurisdictions in Idaho currently impacted
Idaho EVALI Patient Symptom Onset by Week Ending Date
Idaho EVALI Patient Demographics

- **Range:** 16 to 55 years
- **Mean (Median):** 25 (20.5) years
- **Gender:** 80% Male
- **Ethnicity:** 86% Not Hispanic or Latino (of those where ethnicity is known [n=7])
- **Race:** 100% White (of those where race is known [n=8])
Idaho EVALI Patient Clinical Characteristics

- 100% had prior healthcare encounter (mostly ED)
- 90% hospitalized

- Ground glass opacities
- Infiltrates
- Focal airspace opacities

70% reported Shortness of Breath (SOB)
- Cough
- Dehydration
- Fever
- Hypoxia

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IDaho Department of Health & Welfare
Division of Public Health
Idaho EVALI Patient Vaping Status

- All 10 reported vaping a nicotine-containing substance
- 90% self-reported vaping THC-containing substance
  - Some report using THC to wean off other addictive products/substances (i.e., opioids, alcohol)
  - Most report a history of anxiety or depression
Key Points

• Idaho public health officials continue to investigate an ongoing outbreak of acute hepatitis A infections
  – Person-to-person transmission
    • Targeting vulnerable populations for vaccination
  – Encourage vaccination for those at risk

• Idaho public health officials continue to investigate reports of EVALI
  – Report suspected cases to public health officials
  – Cause remains unknown
    • Vitamin E acetate identified in all BAL samples submitted to CDC
    • Testing of aerosol underway at CDC
    • FDA testing of patient product samples found vitamin E acetate, aliphatic esters (e.g., triglycerides), and polyethylene glycol as diluents
  – Refrain from vaping especially those products obtained through informal sources
References


• Hepatitis A Questions and Answers for Health Professionals, CDC, Available at: https://www.cdc.gov/hepatitis/hav/havfaq.htm#B1

• UpToDate

• Advisory Committee on Immunization Practices (ACIP) website, available at: https://www.cdc.gov/vaccines/acip/index.html
References


• CDC Website, Electronic Cigarettes page, available at: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm
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