Hepatitis C Screening, Diagnosis & Linkage to Care

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Outline
1. Epidemiology Overview (Barbra)
2. Screening (Danielle)
3. Diagnosis (Danielle)
4. Linkage to Care (Barbra)

Epidemiology

Estimated prevalence: 3.5 million …right?

No! NHANES database does not include institutionalized people (incarcerated, hospitalized, homeless) or military veterans.

United States estimates up to 5.2 million (Chak et al., 2011)
How does Kentucky compare?

- Acute HCV Incidence: Kentucky ranked #1 from 2011-2014, and #3 2015-2016 (CDC)
- Incidence rate ranged 2.6 (in 2016) to 8.1 (in 2013) per 100,000
- Young Adults > Baby Boomers (Morse, Barritt, & Jhaveri, 2018)

World Hepatitis Day 2017

- 488 people tested
- People came from 15 different counties
- HCV Antibody prevalence rate 4.1%
- Universal screening approach: ages ranged 17-89 years, median age 58
- Reactive HCV Ab mean age: 46 years (born in 1971) ≠ Not a Baby Boomer

Kentucky’s Women of Childbearing Age

Keep in mind: Childbearing age generally accepted as 15-44 years

There are limitations: many databases group into ages 20-29 and 30-39
Evidence suggests HCV transmission occurs mid-gestation (Fauteaux-Daniel et al., 2017).

Mandatory reporting for infants born to HCV infected mothers and children under 5 with HCV has been in place since 2015, but reporting remains low (Wilburn et al., 2018).

Multi-generational Concerns

Screen ➔ Diagnose ➔ Refer & Treat

Recommendation for screening (CDC)

- Adults born from 1945 through 1965
- IV Drug Use
- Certain medical conditions: HIV, long term hemodialysis
- Prior recipients of transfusions or organ transplants
- Exposure concerns
Uncertain need for screening (CDC)

- Recipients of transplanted tissue (e.g., corneal, musculoskeletal, skin, ova, sperm)
- Intranasal drug use
- Persons with a history of tattooing or body piercing
- Persons with a history of multiple sex partners or sexually transmitted diseases
- Long-term steady sex partners of HCV-infected persons

Screening recommendations from AASLD

One-time hepatitis C testing is recommended for persons born from 1945 through 1965. Everyone should be screened for HCV infection risk factors.

Risk Behaviors:
- Injection-drug use (current or ever, including those who injected only once)
- Intranasal illicit drug use

AASLD Exposure Risks

- Persons on long-term hemodialysis (ever)
- Persons with percutaneous/parenteral exposures in an unregulated setting
- Healthcare, emergency medical, and public safety workers after needle-stick, sharps, or mucosal exposures to HCV-infected blood
- Children born to HCV-infected mother
- Prior recipients of transfusions or organ transplants, including persons who:
  - Persons who were ever incarcerated

Other people who need to be screened (AASLD)

- People with HIV infection
- Sexually-active persons prior to starting pre-exposure prophylaxis (PrEP) for HIV
- Unexplained chronic liver disease and/or chronic hepatitis, including elevated ALT levels
- Solid organ donors (deceased and living)

Baby Boomers

- High prevalence
- Increased mortality
  - Liver transplant
  - Liver Cancer
- HCV is a chronic infection
- Liver related costs
- Safe and effective medication

People Who Inject Drugs (PWID)

- Injection drug use is the most significant risk factor for HCV infection (CDC/AASLD)
  - Cause of majority of new infections (ASAM)
  - Approx 80% of American PWID are infected with HCV
- Significant barriers to follow up and treatment
- It’s not just needles:
  - HCV can live outside the body for up to 6 weeks! (CDC)
- Drug use relapse rate 40-80% (MDA)
- Educate, educate, educate
Screening for Continued Risk Factors

- AASLD: Annual HCV testing for PWID and HIV + MSM
- CDC: Test anyone who may have been exposed in past 6 months.

Other populations

- Pregnant women
  - Kentucky SB 280
- HIV
  - 25% of HIV infected Americans are coinfected with HCV (CDC)
- HCV coinfection was significantly associated with increased mortality (Thornton et al., 2017)
- Treatment available
- People who are incarcerated
  - Prevalence (Dolan, 2016)
  - Barriers to care

Universal Screening

- HCV is underdiagnosed (CDC)
- Johns Hopkins Study
  - 25% would be missed using current screening recommendations
- Eradication
- Cost Efficacy (Schiffman)
- Who is your population?

HCV testing sequence

- Key test for HCV diagnosis
- Qualitative vs. Quantitative
- If negative
  - No Current infection
  - Self cure
  - Previously treated
- If positive
  - Current infection with HCV
  - Refer & Treat
- Reflex is available

HCV RNA testing

- CDC recommends getting RNA regardless of HCV Ab if you suspect recent exposure**
Serologies in Acute HCV--with resolution

Most patients are asymptomatic. Acute HCV and cirrhosis can present with:
- Fever
- Fatigue
- Dark Urine
- Vomiting
- Jaundice
- Ascites
- Clay-colored stool
- Abdominal pain
- Loss of appetite
- Nausea
- Joint Pain

Serologies in Chronic HCV

Extrahepati Manifestations

<table>
<thead>
<tr>
<th>Immune-related</th>
<th>Inflammation-related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed cryoglobulinemia</td>
<td>Type 2 diabetes mellitus</td>
</tr>
<tr>
<td>Cryoglobulinemic vasculitis</td>
<td>Insulin resistance</td>
</tr>
<tr>
<td>B-cell NHL</td>
<td>Glomerulonephritis</td>
</tr>
<tr>
<td>SiCKA syndrome</td>
<td>Renal insufficiency</td>
</tr>
<tr>
<td>Arthritis/myalgia</td>
<td>Fatigue</td>
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<td>Cognitive impairment</td>
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<td>Polyarteritis nodosa</td>
<td>Depression</td>
</tr>
<tr>
<td>Monoclonal gammapathies</td>
<td>Polyarthritis/tendonitis</td>
</tr>
<tr>
<td>Immune thrombocytopenia</td>
<td>Cardiovascular disorders</td>
</tr>
</tbody>
</table>

Common Traps

- Waiting to refer
- Downplaying disease severity
- Delaying treatment
- Not confirming diagnosis with HCV RNA
- Not screening appropriately
  - Universal screening?

Do not be lulled into a false sense of security by normal LFTs or lack of symptoms!

Who Needs Follow Up?

Anyone with a +HCV RNA should be evaluated for treatment.

Even if someone cannot be treated currently (i.e. lack of insurance, pregnant), link them to care
Linkage to Care

Term coined in the HIV arena: completion of first medical clinic visit after diagnosis

From AASLD:

Linkage to Care: What is it?

Recommendation for Linkage to Care

recommendation: rate

All persons with active HCV infection should be linked to a clinician who is prepared to provide comprehensive management.

Linkage to Care: How Well Were We Doing?

(Yehia et al., 2014)

Linkage to Care: How Well Are We Doing Now?

(Anderson et al., 2017)

Linkage to Care is a Continuum

- Screen
- Confirm
- Refer
- Treat → Genotype/Fibrosis
  - Treatment readiness
  - Prescribe
  - Complete therapy
  - SVR12

How Well Are We Doing Now?

(Anderson et al., 2017)
Linkage to Care Barriers

- Contraindications to treatment
- Competing priorities
- Treatment duration is too long
- Treatment side effects
- Lack of provider expertise
- Lack of access
  - No insurance
  - No providers
  - Cost/affordability
  - Travel/geography

Other Linkage to Care Barriers

- Stigma
- Shame
- Guilt
- Misinformation
- Lack of perceived HCV risk

What’s Working?

- Team-based care: NP/PA or Pharmacist-led approaches (Kwong & Epstein, 2015)
- Extensions for Community Health Outcomes (Project ECHO): Dr. Sanjay Arora’s model
- Gilead FOCUS Programs

What Could Work: Screen and Treat in Prison

- Screen EVERYONE (kids, too!)
- Anyone performing screening test needs a standard procedure for referral/follow-up
- Policy change: reactive screening tests automatically reflex to RNA (and have a phlebotomy station at health fairs or where point-of-care tests are used)
- Check your stigma
- Collaborations needed between local government, public health departments, local healthcare providers, and community members
- Primary care providers can, should, and will treat
- Stay up to date
What’s Next?

- All-oral pangenotypic regimens approved from age 3 years and older (~2020)
- HCV treatment for pregnant women... during pregnancy!
- Increased access to non-invasive fibrosis assessment tools
- Providers recognize HCV as a driving force behind other chronic diseases (depression, fatigue, heart disease, diabetes)... HCV is not all about the liver!

References


