Cases: Hepatitis C Treatment in People who Inject Drugs

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Off-Label Warning
I will discuss the following off-label use in this presentation: Treatment for acute HCV

Learning Objectives
After attending this presentation, learners will be able to:
• Describe special considerations for HCV treatment for people living with HIV
• Describe special considerations for HCV treatment for people with recent history of drug use
CASE 4 – HCV in PWID

19 Caucasian W recently admitted for skin and soft tissue infection. Noted to have track marks by a medical resident who sees her in ED. She confides that she has recently started injecting heroin after it became too expensive to acquire oxycodone. She has one partner who injects her. Her family is unaware of her drug addiction. She is discharged from ED with antibiotics and while she declines substance abuse treatment referral, she takes information about a harm reduction center.

PMH:
Depression – suicide attempt age, 17

CASE 4 – cont

She is seen in urgent care for a skin and soft tissue infection. She also reports some malaise. The provider asks about sharing needles and she reports that she has not. (She is injecting in a group setting and had learned it was safest to be the first one to use a syringe but does not think to mention she shared other things).

Labs reveal:
HIV 4th gen test - neg
HBV sAb+ sAg-
HCV Ab positive
AST 250
ALT 320
Bili 1.2
CASE 4 – cont

The urgent care doctor calls her and urges her to see a primary doctor for further HCV RNA testing.

She feels fine and decides she will take care of it the next time she needs to see a doctor. She also knows someone who tried to get treated but insurance did not cover it.

But this news does prompt her to go with a friend to the harm reduction program.

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**Harm Reduction Kit**

1. Clean Bottle for mixing water and drug.
2. Bleach to disinfect used syringes when a clean one isn’t available.
3. Sanitizers to help avoid infection after injecting.
4. Saline water to mix the drug with.
5. Tourniquet to “tie-off” above the injection site.
6. Bottle cap for mixing water with the drug before it is drawn up into the syringe (commonly called “booster”).
7. Cotton balls to trap dirt and debris from the drug.
8. Saline drug in a sterile, disposable vial.
9. Syringes don’t come inside the kit, but are provided at distribution sites.
10. Step-by-step injection instructions
11. Alcohol swabs to clean the injection site before insertion.

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**Increased injection drug use has shifted HCV demographics**

*Figure 1: Age distribution of newly reported confirmed cases of Hepatitis C virus infection – Massachusetts, 2002 and 2009*
• Estimated anti-hepatitis C virus prevalence among people who inject drugs by country

• The Lancet Global Health 2017; 5, e1192-e1207

Restrictions often specifically exclude PWID
ARS Question: All PWID should be denied HCV treatment because...

1. No treatment data with DAAs
2. Reinfection rates are too high
3. They have low fibrosis levels so does not benefit them
4. None of the above

What is the definition of ‘PWID’ (people who inject drugs)?

- ‘PWID’ is a subjective term to any person who has ever injected drugs. (once regularly, occasionally, remotely)

- PWID populations
  - “active” or “recent” PWID – injected drugs within 1 month to 1 year (definition varies)
  - “former” PWID – ceased injecting drugs

C-EDGE COSTAR – Clinical Trial of patients receiving opiate agonist therapy

Treatment naive PWID on opiate agonist therapy for 3 months, keeping 80% of appointments

Treated with EBV/GRZ
Sof/vel for HCV infection in recent PWID (SIMPLIFY) 
SVR12 = 97/103 (94%) 

Adherence based on blister pack: Median adherence 94% 

DAA treatment for hepatitis C among people who use or inject drugs: a systematic review and meta-analysis 

Additional Treatment Considerations: 
Re-infection 

Studies included in meta-analysis: 
1. Hepatitis C reinfection rates and HCV reinfection rates per 1000 person-years up to 3 years, 3-5 years, and more than 5 years after a sustained virologic response (Canadian HIV cohort, n = 224). 
2. Reference populations were drawn from random sources. All studies included HCV-infected C virus, HCV reinfection drug use, CD4 count, viral genotype and others.
Sources of re-infection can be predicted...can they be prevented by network treatment?

Eckhardt, INSHU 2018

Modeling studies of Network Treatment

HCV treatments are compatible with opioids and medication-assisted therapies

Opioid/Opioid Substitutes | LSN/BOC | SOP/VEL | PEG | GAN/ER | GP | SOP/VEL | VOF
--- | --- | --- | --- | --- | --- | --- | ---
Oxymorphone | ✔ | ✔ | Monitor* | ✔ | ✔ | ✔ | ✔
Fentanyl | ✔ | Monitor* | ✔ | ✔ | ✔ | ✔ | ✔
Hydromorphone | ✔ | Monitor* | ✔ | Monitor* | ✔ | ✔ | ✔
Morphine | ✔ | Monitor* | ✔ | ✔ | ✔ | ✔ | ✔
Hydromorphone | ✔ | Monitor* | Monitor* | Monitor* | ✔ | ✔ | ✔
Codeine | ✔ | Monitor* | ✔ | Monitor* | ✔ | Monitor* | ✔
Methadone | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔
Butorphanol | Monitor* | Monitor* | ✔ | ✔ | ✔ | ✔ | ✔

www.hcp-druginteractions.org
HCV treatments are compatible with other drugs of abuse

Models of Treatment Delivery for PWID

- The shift from INF-based therapy to DAA has allowed for increased decentralization of care
- Treatment environments that can provide multi-disciplinary services around addiction, social support, mental health, and re-infection prevention will be essential
- Examples of models being evaluated include:
  - integrated primary care facilities
  - methadone clinics
  - prison
Treatment as Prevention for HCV in PWID - Iceland

- Goal: HCV elimination by 2020
- HCV Treatment emphasis: cirrhosis, active PWID, prison
- 680 treatments initiated 2016 - 18 (80-85% of total infected, 90% overall cure rate)
- Monitored HCV rates at Iceland addiction hospital (utilized by 7.4% of their adult population)

DAA therapy is safe and effective among PWID
HCV reinfection will occur when treating HCV in PWID
Testing, diagnosis, and linkage to care remain a significant barrier that must be addressed
Simplification of models of care will be essential to achieve HCV elimination in PWID

CONCLUSIONS CASE 4

- HCVguidelines.org
- nynjaetc.org
- http://www.hep-druginteractions.org

THANK YOU
Question-and-Answer

Remember to raise your hand and wait until you have the microphone before you ask your question—we are recording!