

Hepatitis C – It's About More than Liver Disease
Post-Webinar Q & A

1. Is there a high rate of cryoglobulinemia resolution with cure?

Dr. Younossi: The newer regimens with DAAs can induce up to 90% clinical remission. Some patients may still have detectable serum Cryos but the symptomatic cryo resolves or improves in most patients.

2. Dr. Lee, are there more programs or movements in medicine for primary care providers to be able to treat hepatitis?

Dr. Lee: Yes, there are more programs in primary care treating hep C. One example is the Liver Clinic at Grady hospital in Atlanta, Georgia. I am also aware of a few other practices that provide hep C care in primary care settings. Here in Boston, many community health center primary care physicians are also treating hep C. There is certainly movement in medicine for primary care providers to treat hep C to increase access. I recently gave a workshop in a national meeting of general internal medicine doctors about how to develop a primary care hep C treatment program.

3. What overall recommendations would you offer for areas that do not have providers who treat Hepatitis C?

Dr. Lee: I think advocacy work and education to increase the awareness that the primary care doctors can treat the disease and empowering them would be helpful. Ideally, with support of interdisciplinary team. However, I understand, not all providers have this luxury.

There is a virtual provider training program called "Project ECHO" where providers in remote areas without support of specialists present the patient's story to a specialist via tele conference. This is from their website:

"Once a combination of patient information is presented to the Hepatitis C Community TeleECHO Clinic, the community clinician is given a plan for treatment by the specialist. After hepatitis C treatment protocol is established, frequent follow-ups are conducted to present the patient's treatment status, to relay issues that may impede treatment, and to alter the treatment plan as needed to maximize the patient's chance for a cure. Through the use of technology, best-practice protocols, and ongoing case-based learning, rural primary care clinicians deliver hepatitis C care that is as safe and effective as that given in a university clinic."

<https://echo.unm.edu/nm-teleecho-clinics/hepatitis-c-community-clinic/>

4. Does HCV cause high blood pressure?

Dr. Younossi: The current evidence does not support strong association between HTN and HCV.

5. **Laura - I really enjoyed listening to your story. I am wondering if your providers encouraged you during your treatment to also receive vaccination for hep B and hep A, if you were not previously vaccinated?**

Laura : Yes, it was recommended that I be vaccinated for A and B which I promptly did. At the dialysis center they test your Hep B titer every year and my level was <10 so I had another series of 4 shots after which the antibodies went up to 130. If it drops again I'll be offered a booster.

6. **How do you know to get tested? How do you get the doctor to test you?**

Randy : The obvious, ALL at risk populations and I actually believe everyone should have a one-time antibody test. How to get it; ASK HCP to test you! Bring copy of CDC recommendations. Insist! For women, often a gynecologist will easily comply. (We do still have disinterested uneducated providers and I know stigma, for any reason can be a barrier. Also uninsured and lack of testing facilities in rural and remote areas are an ongoing issue.)

7. **Are newly diagnosed HCV pts screened (usual screenings) for depression/anxiety?**

Dr. Lee: At least in our hep C program at Boston Medical Center, we do screen for depression and anxiety. In order to ensure this, we actually use a note template that our hep C providers use for documentation of the visit which includes these exact questions. We recognize that depression and anxiety could be due to hep C. But also as part of addressing barriers to successful treatment, we explore these co-morbidities from the first visit. If identified, we refer those patients to our behavioral health providers in our practice.

8. **How often and under what circumstances will EHM's not resolve after achieving SVR?**

Dr. Younossi: When the EHM is related to another condition. For example fatigue may be related to HCV or to a co-morbidity such as depression. If HCV is cured, you may still have fatigue if co-morbidity is not addressed.

9. **Post treatment, did you see improved cognition as well?**

Randy : My cognition was the first to return. Within 3 months post treatment (even some during) I could once again absorb information and regurgitate/extrapolate with ease. I generally don't get lost mid sentence or thoughts. This continues!

Laura : After the cure I did notice a greater ability to concentrate and focus which I attributed to also having more energy.

10. **For female patient age 45, how did you know she had HCV? When was she diagnosed in accordance with timeline of her initial ER visit? (Case study)**

Dr. Lee: She was diagnosed in 1996, her ER visit was in 12/2015, I first saw her in 2/2016 for evaluation of hep C treatment. Even though I provide primary care, she actually had her own PCP, and was seeing me just for hep C treatment. She was never treated for hep C prior to that time. She was waiting for oral medication to come out.

11. How do these four major meds react to HCV Medications? Disulfiram, Acamprosate, Naltrexone, Vivatrol (Ext-Release Naltrexone).

Dr. Younossi: Best to look at specific drug regimens. A good resource is AASLD's HCV Guidance Document (freely available). Another excellent resource about liver toxicity of any drug is Liver Tox which is maintained by NIH and is freely available.

12. Please speak more about the chemical changes in the brain from HCV....is this a change in Dopamine response...other neurotransmitters? Exactly what are you saying is happening in the brain...? Speak of Neuron response, dendrites,

Dr. Younossi: Not a lot of data. Recommend a review article from Forton DM (Eur J Gastroenterol Hepatol, 2006).

13. Does HPV have any bearing on Hep C?

Dr. Younossi: No association as an EHM.

14. How can Hep C affect your digestive system? Can you have an increased risk of diverticulitis from Hep C?"

Dr. Lee: Since the liver is a part of our digestive system, I should say it affects the liver with chronic inflammation. With advanced disease, cirrhosis patients could have complications such as esophageal varices (engorged blood vessel due to high blood vessel pressure in the liver due to stiffness from scarring) and this may cause bleeding.

Dr. Younossi: It may possible that HCV can affect beta cell function in the pancreas, potentially contributing to diabetes and its management. This is not entirely clear. Also, the biliary system can be considered as a part of the liver. The highest risk cancer related to HCV is hepatocellular carcinoma. However, cholangiocarcinoma (bile duct cancer) is also associated with HCV. Finally, a number of other cancers (including GI Cancers) have been associated with HCV (see Nyberg et al, Clinical Gastro and Hep, 2018).

There is no association with diverticulitis.

Randy : I had NO GI issues ever until approximately 18 yrs ago at which time my entire digestive system shut down; constipation (sometimes for two weeks at a time) SIBO-3 bouts which were treated with xifaxan, 24/7 unrelenting nausea and waves of pain, gastroparesis, Barrett's Esophagus and really lost all gut integrity. What I don't know, but I presume yes, is whether my Hep C was part culprit. I do have cirrhosis so my liver doesn't always perform the activity it should. I speak to hundreds of clients with severe GI complaints so I don't think it's all coincidence. I also "think" my very up-regulated nervous system (especially sympathetic) plays a role... darn that brain! Of course, lack of mobility from fatigue certainly contributes. I also have diverticulosis which has caused me no issues to date.

15. I've been cured of Hep C and my libido stay low from time to time. Is there help for me?

Laura: After my libido returned with a rage, it settled into a normal pattern of sometimes being low, often when I'm tired or run down. Don't have much of a sense of humor either at those times. My only suggestion is to get enough sleep or rest and exercise. A lot of other factors can effect libido.

Randy: I think it's quite normal for libido to be quiet from time to time. During CHC the answer is "I'm too tired." After my body recuperated from treatment, a song could kick it on ;) I'd say if it's a real problem, ask doctor to do some hormone assessments.

16. What are the current recommendations for follow up, testing, and treatment for infants born to women who are HepC positive?

NVHR: Here are HCV guidelines on pregnancy and children:
<https://www.hcvguidelines.org/unique-populations/children>

17. Question for after presentation: could the presenter on HCV/CKD share about her past and current special diet?

Laura : My daily dietary restriction was a maximum of:

50 gm protein (determined by weight), 1500 mg sodium, 800 mg phosphorus 1500 mg potassium

Lab values for these are tested monthly and these numbers could be adjusted according to how well I did. I kept track with the help of a nutritional tracker app called kidney diet which is no longer available, but others are out there.

Before dialysis:

What I could eat in limited amounts:

Apples, pears, berries, watermelon, grapes

Summer squash, cauliflower, pale green or yellow lettuce leaves, celery, onions

Chicken, tilapia, cod, sole, eggs

Spaghetti, white rice

Mozzarella, ricotta, butter

What I avoided altogether:

All other melons, oranges, star fruit, bananas

Dark leafy greens, tomatoes, winter squash (butternut, pumpkin, acorn, etc), all potatoes, all beans and legumes, avocados, artichokes, whole grains

Salmon, halibut, mackerel, sardines, anchovies

Soy sauce, ketchup, mustard and other salty condiments, olives

All dairy except what's listed above

Any packaged food containing potassium or phosphorus.

You can see why eating out was problematic.

Now on hemodialysis:

The diet is much less restrictive. I still keep to 1500 mg sodium, limit. The phosphorus and potassium I can limit just by avoiding dairy, beans and legumes but can eat all the protein I want and have to take a protein supplement (Liquicel) to achieve the 90gm/ day minimum they want. Dialysis removes protein as well as toxins and excess fluid. I now eat avocados, all melons, potatoes and any squash.

Eating out is now doable by requesting very simple prep with no salt - there is usually something on the menu they can accommodate this way but the best bet is always a salad. All Mexican, Asian and Middle Eastern restaurants are out of the picture due to the heavy use of salt, soy and fish sauce. I have to restrict all fluids to 1 liter/day, which is determined by how much kidney function I have left. I long for tall glasses of cool water.