


Hepatitis C 2018

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Disclosure

- The speaker has no conflicts of interest.

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A case

60 year old woman comes in saying that her daughter tells her she should have a hepatitis C test.

Is she right?

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 CDC Hepatitis C screening recommendation

All persons born between 1945 and 1965 should be screened.


Ever injected drugs

Received clotting factors before 1987

On dialysis

Elevated ALT

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 Consider testing in:


Intranasal drug users

Have tattoos

Multiple sex partners

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 You order the Hepatitis C antibody

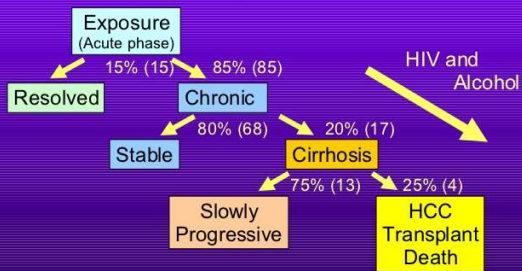
It is positive- Next steps

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Positive antibody means she has been exposed

Natural History of Hepatitis C Virus (HCV) Infection




HCC = hepatocellular carcinoma.

Alter MJ. *Semin Liver Dis.* 1995;15:5-14.
NIH Consensus Statement. Management of hepatitis C. National Institutes of Health; March 24-26, 1997.

Hepatitis C viral load HCV RNA 700,000

700,000 viral particles per ml


Genotype 1a



Back in the office

- Check for symptoms
- Evaluate for treatment
- Patient education


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Hepatitis C Symptoms

- Fatigue and sleep disturbances
- Nausea, diarrhea, abdominal pain, anorexia,
- Myalgia, arthralgia,
- Weakness, and weight loss
- Depression and anxiety


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Patient education-meds

- Acetaminophen safe up to 2 gram per day (cirrhosis 1gm)
- ASA and NSAIDs ok in standard doses (none of cirrhosis)
- Avoid iron supplements
- Avoid mega doses vitamin a
- Avoid alternative meds

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Dietary Recommendations

- Balanced diet
- 2 liters fluid per day
- No protein restriction
- Avoid obesity
- Drinking 3 or more cups coffee may be beneficial

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Alcohol

- Ideally avoid alcohol
- For women 1 drink per day or men 2 per day is probably ok

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AUDIT-C

- How often did you have an alcoholic drink?
- How many drinks on a typical day when drinking
- How often did you have 6 or more drinks on one occasion

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Immunizations


- Hepatitis B
- Hepatitis A
- Pneumococcal

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You recall recently renewing her husband's Viagra?

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Physical Exam

Signs of decompensated cirrhosis

Skin findings

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Lichen Planus



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Leukocytoclastic vasculitis



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Porphyria cutanea tarda



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Extra-hepatic manifestations

Arthralgia
Fatigue

Neuropathy

Cryoglobulinemia

Membranoproliferative glomerulonephritis

Increased risk of diabetes

Lymphoma

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Further workup

Baseline labs: CBC, INR, Comprehensive metabolic panel
TSH

Hepatitis B surface antibody, core antibody and core antigen

Hepatitis A antibody

HIV

Urine drug screen

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Evaluate for fibrosis/cirrhosis

AST to Platelet Ratio Index (APRI) Calculator

Share

This is an AST to Platelet Ratio Index (APRI) calculator tool. Enter the required values to calculate the APRI value. The APRI Score will appear in the oval on the far right (highlighted in yellow). Most experts recommend using 40 IU/L as the value for the AST upper limit of normal when calculating an APRI value.

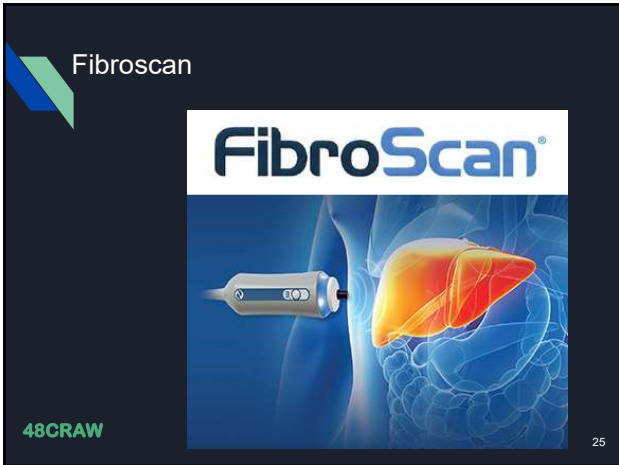
AST Level (IU/L)

AST (Upper Limit of Normal) (IU/L)

Platelet Count (10⁹/L)

APRI = $\frac{\text{AST Level (IU/L)}}{\text{AST (Upper Limit of Normal) (IU/L)}} \times \frac{100}{\text{Platelet Count (10}^9\text{/L)}}$ x 100 =

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You tell her she has fibrosis and needs to see the hepatologist for treatment.

She says she is busy and doesn't want to drive to see the specialist.

What are the benefits of treatment?

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Benefits of treatment of Hep C

- Reduced transmission
- Decreased fibrosis
- Decreased extrahepatic manifestations
- Decreased risk of cirrhosis and in turn decompensated cirrhosis
- Decreased risk of hepatocellular carcinoma
- Decreased 5 year mortality

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Clinical outcomes by HCV treatment and response

Clinical Outcomes by Response to Hepatitis C Treatment

Outcome	Patients with SVR	Patients without SVR	Hazard Ratio
	Events per 10,000 Patient-Years		
Overall Death	71	193	0.44
Liver-Related Death	36	283	0.14
Non-Liver-Related Death	36	40	1.21
Liver Failure	0	365	0.03
Hepatocellular Carcinoma	107	277	0.46

Source: Veldt BJ, Heathcote EJ, Wedemeyer H, et al. Sustained virologic response and clinical outcomes in patients with chronic hepatitis C and advanced fibrosis. *Ann Intern Med.* 2007;147:677-84. 28


Reduction extrahepatic manifestations

Clinical Outcomes by HCV Treatment and Response

Outcomes	No Treatment	Treatment without SVR	Treatment with SVR
	Events per 1,000 Patient-Years		
Mixed cryoglobulinemia	0.72	0.52	0.33
Glomerulonephritis	2.83	1.62	1.09
Porphyria cutanea tarda	0.52	0.37	0.16
Lichen planus	0.68	0.71	0.56
Non-Hodgkin's lymphoma	0.91	0.55	0.43
Diabetes mellitus	21.6	17.0	13.9
Coronary heart disease	1.01	0.58	0.75
Stroke	9.14	4.64	5.10

Source: Mahale P, Engels EA, Li R, et al. The effect of sustained virological response on the risk of extrahepatic manifestations of hepatitis C virus infection. *Gut.* 2018;67:553-61. 29

She agrees for treatment and you decide to treat her yourself



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Least complex Hep C patients to treat

- Without cirrhosis
- Without hepatitis B
- On few meds
- Little psychiatric illness
- Without current addiction
- Not treated previously

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Choosing a regimen

[Hepatitis C guideline](#)

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Hep C genotype 1a- no cirrhosis or previous treatment

Treatment-Naive Genotype 1a Without Cirrhosis

Recommended and alternative regimens listed by evidence level and alphabetically for:
Treatment-Naive Genotype 1a Patients Without Cirrhosis


RECOMMENDED	DURATION	RATING [Ⓞ]
Daily fixed-dose combination of elbasvir (50 mg)/grazoprevir (100 mg) for patients without baseline NS5A RAS* for elbasvir	12 weeks	I, A
Daily fixed-dose combination of glecaprevir (300 mg)/pibrentasvir (120 mg) [†]	8 weeks	I, A
Daily fixed-dose combination of ledipasvir (90 mg)/sofosbuvir (400 mg)	12 weeks	I, A
Daily fixed-dose combination of ledipasvir (90 mg)/sofosbuvir (400 mg) for patients who are non-black, HIV-uninfected, and whose HCV RNA level is <6 million IU/mL	8 weeks	I, B
Daily fixed-dose combination of sofosbuvir (400 mg)/velpatasvir (100 mg)	12 weeks	I, A
ALTERNATIVE	DURATION	RATING [Ⓞ]
Daily fixed-dose combination of paritaprevir (150 mg)/ritonavir (100 mg)/ombitasvir (25 mg) with dasabuvir (600 mg) as part of an extended-release regimen or plus twice-daily dosed dasabuvir (250 mg), with weight-based ribavirin	12 weeks	I, A
Daily simeprevir (150 mg) plus sofosbuvir (400 mg)	12 weeks	I, A
Daily daclatasvir (60 mg) [‡] plus sofosbuvir (400 mg)	12 weeks	I, B
Daily fixed-dose combination of elbasvir (50 mg)/grazoprevir (100 mg) with weight-based ribavirin for patients with baseline NS5A RAS* for elbasvir	16 weeks	IIa, B

[Ⓞ] Includes genotype 1a resistance-associated substitutions at amino acid positions 28, 30, 31, or 59 known to confer *artifical* resistance.
[†] This is a 3-tablet formulation. Please refer to the prescribing information.
[‡] The dose of daclatasvir may need to be increased or decreased when used concomitantly with cytochrome P450 3A4 inducers and

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Getting the authorization

- Pennsylvania: State of Hepatitis C Medicaid Access:
- Grade A-



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To start

Review baseline labs

Confirm no new meds - including OTC and alternative med

Review alcohol and drug use

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At 4 weeks

CBC

Chem 20

Hep c viral load

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 The viral load is detectable

Assess adherence

Repeat 2 weeks later- if increasing stop treatment and seek consultation

If increased LFTS's especially with symptoms or of 10x baseline- seek consultation


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 Repeat vl at 12 weeks after treatment

Undetected!!!!

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 No follow up necessary for Hep C

Remind can get reinfected

If fibrosis needs q6 month ultrasounds for HCC surveillance

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<https://nccc.ucsf.edu>

Monday through Friday, 9:00 a.m. to 5:00 p.m. EST.

Voice mail and online case submission are available 24 hours a day.

Most are answered within two hours.

Phone (844) HEP-INFO or (844) 437-4636



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Resources

[Hepatitis C Online](#)- University of Washington tutorial on hepatitis C

Hepatitis C guideline

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