Initiating Hepatitis C Treatment

Checklist of factors to consider when deciding on treatment

- HCV genotype and subtype
- Level of fibrosis (most important: cirrhosis or no cirrhosis)
- Other urgency to treat (such as future need for immunosuppression or hepatotoxic treatment, desire for future pregnancy, or extra-hepatic complications associated with HCV like NHL, kidney disease or cryoglobulinemia)
- Desire to be treated now (consider current psychosocial issues that need to be addressed first like substance use or depression)
- Treatment history (naïve, relapse, partial, or null to Peg-IFN/RBV, failure of a telaprevir or boceprevir-containing regimen or sofosbuvir-containing regimen)
- Contraindications to ribavirin
- Willingness and candidacy for clinical trials
- Decompensated liver disease
- Liver transplant
- HIV coinfection
- Relevant drug-drug interactions

Determine likelihood of cirrhosis (if no liver biopsy is done, these noninvasive tests increase the likelihood of cirrhosis, especially if more than one are present):

- APRI >1.5 or FIB-4 >3.25 (use on-line calculators)
- Fibrosure >0.74
    - Some insurers require both Fibrosure >0.75 and APRI >2.0
- Fibroscan >12.5
- Platelets <150,000
- Albumin < 3.5
- Splenomegaly on exam or ultrasound
- Any signs of liver decompensation
- MELD and Child-Pugh scores (use on-line calculators)

Initial HCV Work-Up

HCV RNA (viral load)	Fibrosure
HCV genotype/subtype	Fibroscan if Fibrosure >0.55
ALT, AST, Total bilirubin, Alk Phos, Albumin	ANA: autoimmune w/u if (+)
Creatinine and GFR	RPR
CBC with differential	HIV Ab if not done recently
INR	Fe2+, TIBC, ferritin
HBsAb, HBsAg, HBcAb: vaccine if all (-)	Abdominal ultrasound if likely cirrhosis for HCC
HAV total Ig: vaccinate if (-)	EGD if likely cirrhosis for varices

Treatment Options: Genotype 1

Patient Characteristics	Genotype 1a	SVR	Genotype 1b	SVR
Naïve[1], no cirrhosis, HCV RNA <6 million	Viekira + RBV x 12 wks	97%	Viekira x 12 wks	100%
	Harvoni x 8 wks[1]	97%	Harvoni x 8 wks	98%
Naïve, no cirrhosis, HCV RNA >6 million	Viekira + RBV x 12 wks	97%	Viekira x 12 wks	100%
	Harvoni x 12 wks	96%	Harvoni x 12 wks	98%
Naïve, compensated cirrhosis	Viekira + RBV x 12 wks	92%	Viekira + RBV x 12 wks	100%
	Harvoni x 12 wks	94%	Harvoni x 12 wks	94%
	Harvoni + RBV x 12 wks	100%	Harvoni + RBV x 12 wks	97%
Failed prior Peg-IFN/RBV, no cirrhosis	Viekira + RBV x 12 wks	96%	Viekira x 12 wks	100%
	Harvoni x 12 wks	95%	Harvoni x 12 wks	95%
Failed prior Peg-IFN/RBV - relapse, compensated cirrhosis	Viekira + RBV x 12 wks	93%	Viekira + RBV x 12 wks	100%
	Harvoni + RBV x 12 wks	96%	Harvoni + RBV x 12 wks	96%
Failed prior Peg-IFN/RBV - partial or null, compensated cirrhosis	Viekira + RBV x 24 wks	93%	Viekira + RBV x 12 wks	100%
	Harvoni + RBV x 12 wks	96%	Harvoni + RBV x 12 wks	96%
	Harvoni x 24 wks[2]	100%	Harvoni x 24 wks[2]	100%
Failed SOF+RBV+/- Peg-IFN	Harvoni + RBV x 12 wks	98%	Harvoni + RBV x 12 wks	98%
Failed telaprevir or boceprevir +P/R, no cirrhosis	Harvoni x 12 wks		Harvoni x 12 wks	
Failed telaprevir or boceprevir +P/R, compensated cirrhosis	Harvoni + RBV x 12 wks	96%	Harvoni + RBV x 12 wks	96%
	Harvoni x 24 wks[2]	100%	Harvoni x 24 wks[2]	100%
Failed sofosbuvir+simeprevir	Harvoni+RBV x 24 wks	?	Harvoni+RBV x 24 wks	?
Decompensated cirrhosis: CPT Class B or C	Discuss with expert			
HIV coinfected, naïve and experienced, no cirrhosis and cirrhosis;[3] Check HIV drug interactions	Viekira + RBV x 12 wks	94%	Viekira + RBV x 12 wks	94%
	Harvoni x 12 wks	96%	Harvoni x 12 wks	96%

[1]Most Harvoni data were not split into genotypes 1a and 1b so combined data are reported

[2]Harvoni x 24 wks if patient cannot tolerate ribavirin

[3]Viekira Pak was not studied without RBV in HIV/HCV coinfection; otherwise follow guidelines for HCV monoinfection

Treatment Options: Genotype 2

Patient Characteristics	Strategy/Treatment	SVR
Naïve, no cirrhosis or cirrhosis, or treatment experienced, no cirrhosis (with or without decompensation, HIV, or post-liver transplant)	Sofosbuvir+Ribavirin x 12 wks	>90%
Treatment experienced with cirrhosis (with or without decompensation, HIV or post-liver transplant)	Sofosbuvir+Ribavirin x 16 wks	78%
	Sofosbuvir+Peg-IFN+RBV x 12 wks	93%

Treatment Options: Genotype 3

Patient Characteristics	Strategy/Treatment	SVR
Naïve, no cirrhosis or cirrhosis, or treatment experienced, no cirrhosis (with or without decompensation, HIV, or post-liver transplant)	Sofosbuvir+Ribavirin x 24 wks	>90%
	Sofosbuvir+Ledipasvir+ RBV x 12 weeks[4]	100%
Treatment experienced with cirrhosis (with or without decompensation, HIV or post-liver transplant)	Sofosbuvir+Ribavirin x 24 wks	60%
	Sofosbuvir+Peg-IFN+RBV x 12 wks	83%
	Sofosbuvir+Daclatasvir x 24 wks via BMS Expanded Access	89%
	Sofosbuvir+Ledipasvir+ RBV x 12 weeks[4]	73%

[4]Not FDA-approved; may have issues with insurance coverage

Treatment Options: Genotype 4

Patient Characteristics	Strategy/Treatment	SVR
Naïve, no cirrhosis or cirrhosis	Sofosbuvir + Ribavirin x 24 weeks	100%
	Viekira + RBV x 12 wks[4,5]	100%
	Harvoni x 12 wks[4]	95%
Treatment experienced	Sofosbuvir + Ribavirin x 24 weeks	87% - 93%

[5]Dasabuvir only has genotype 1 activity so only use the two pills of coformulated paritaprevir/r+ombitasvir once a day with weight based ribavirin twice a day. However, drug-drug interactions were only done with the full Viekira pak regimen, so use ritonavir drug interactions as a proxy for whether there may be DDIs. If so, add back in dasabuvir for pharmacoenhancement.

Monitoring Labs on Treatment

Test	Baseline[1]	Week 2	Week 4	Week 6	Week 8	Week 12	Week 24	Week 36
HCV viral load	X	(X)	X		(X)[3]	X	X	X
CBC with Diff	X	X	X	X[2]		X		
ALT, AST, Tbili, AlkP	X	X	X		X	X		
Creatinine	X	X	X		X	X		
B-hCG (if ribavirin used)	X		X		X	X		

[1]Repeat initial labs except HCV viral load if done more than three months prior to starting treatment. [2]Week 6 CBC if anemia at weeks 2 and/or 4. [3]Consider week 8 HCV viral load if any question about adherence or to help motivate. If a 24-week regimen is used, continue above labs at weeks 16, 20 and 24, then follow up HCV viral load at weeks 36 and 48.