Hepatitis C: Drugs and Combinations

Melissa Osborn MD
Associate Professor
MetroHealth Medical Center
Case Western Reserve University
Cleveland, OH
Faculty and Planning Committee Disclosures
Please consult your program book.

Off-Label Disclosure
The following off-label/investigational uses will be discussed in this presentation:

- Sofosbuvir/ledipasvir for HIV
- Investigational agents for hepatitis C will be mentioned
  - Asunaprevir
  - Daclatasvir
  - Beclabuvir
  - Grazoprevir
  - Elbasvir
  - GS-5816
Learning Objectives

Upon completion of this presentation, learners should be better able to:

• apply clinical trial data on new hepatitis C therapies to their patient population.
• select which new hepatitis C therapies are appropriate to use with common antiretrovirals.
Evolution of interferon-based therapy in HCV-monoinfected genotype 1 patients

Sustained Virologic Response

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Sustained Virologic Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std interferon-alfa</td>
<td>7%</td>
</tr>
<tr>
<td>IFN + RBV</td>
<td>28%</td>
</tr>
<tr>
<td>Peg-alfa-2b+RBV</td>
<td>42%</td>
</tr>
<tr>
<td>Peg-alfa-2a +RBV</td>
<td>46%</td>
</tr>
<tr>
<td>P/R/Telaprevir</td>
<td>75%</td>
</tr>
<tr>
<td>P/R/Boceprevir</td>
<td>67%</td>
</tr>
<tr>
<td>P/R/Simeprevir</td>
<td>80%</td>
</tr>
<tr>
<td>P/R/Sofosbuvir</td>
<td>90%</td>
</tr>
</tbody>
</table>

McHutchison, NEJM 1998; 339: 1485-92
Fried, NEJM 2002; 347: 975-82
Manns, Lancet 2001; 358:958-65
Lawitz, NEJM 2013

Jacobson, NEJM 2011; 364:2405-16
Poordad, NEJM 2011; 364: 1195-206
Jacobson, AASLD 2013 #1122
Evolution of HCV Therapy: Genotype 1 Patients Naïve to Therapy: HIV-HCV coinfection

Sustained Virologic Response

- Std interferon-alfa: 7%
- IFN + RBV: 28%
- Peg-alfa-2b+RBV: 42%
- Peg-alfa-2a +RBV: 46%
- P/R/Telaprevir: 75% - 74%
- P/R/Boceprevir: 67% - 61%

Sources:
- Torriani, NEJM, 2004 351:438-50
- Sulkowski, AASLD 2012, #54
- Mallolas, EASL 2012, Barcelona, #50
- Chung, NEJM 2004 351:451-9
- Carrat, JAMA 2004 292:2839-48
Barriers to Interferon

- Need for weekly injections
- Unfavorable adverse effect profile
  - Flu-like symptoms, fatigue
  - Mood changes
  - Weight loss
  - Depression
- Contraindications
  - Autommune disease
  - Decompensated cirrhosis
  - Cardiac disease
  - Uncontrolled psychiatric disease
### Interferon-Free Regimens Approved

<table>
<thead>
<tr>
<th>PROTEASE</th>
<th>POLYMERASES</th>
<th>NS5A INHIBITOR</th>
<th>OTHER</th>
<th>APPROVAL DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simeprevir</td>
<td>Sofosbuvir</td>
<td>Ledipasvir</td>
<td></td>
<td>October 10, 2014</td>
</tr>
<tr>
<td>Paritaprevir/ritonavir</td>
<td>Dasabuvir</td>
<td>Ombitasvir</td>
<td>Ribavirin</td>
<td>November 5, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>December 19, 2014</td>
</tr>
</tbody>
</table>
## Combination Regimens in Phase 3

<table>
<thead>
<tr>
<th>PROTEASE</th>
<th>POLYMERASE</th>
<th>NS5A INHIBITOR</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asunaprevir</td>
<td>Beclabuvir</td>
<td>Daclatasvir</td>
<td></td>
</tr>
<tr>
<td>Sofosbuvir</td>
<td>Daclatasvir</td>
<td>Ribavirin</td>
<td></td>
</tr>
<tr>
<td>Grazoprevir</td>
<td>Elbasvir</td>
<td>Ribavirin</td>
<td></td>
</tr>
<tr>
<td>Sofosbuvir</td>
<td>GS-5816</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Sofosbuvir/Ledipasvir**

- Sofosbuvir = nucleotide NS5B polymerase inhibitor
- Ledipasvir – NS5A inhibitor
- Fixed dose combination of sofosbuvir 400 mg/ledipasvir 90 mg once daily
- FDA Approved for genotype 1 only but also has activity in genotype 4
- No food restrictions
- Not indicated for creatinine clearance < 30 or in ESRD
- No dose adjustment for mild, moderate, or severe hepatic impairment
- Pregnancy Category B
- No FDA indication in HIV

Harvoni Package Insert, Gilead Sciences
Sofosbuvir/Ledipasvir Phase 3 Naïve: ION-1

Baseline characteristics:
- 67% genotype 1a (vs 1b)
- 12% black
- 70% non-CC
- 16% cirrhosis

Week 0

N=214
- SOF 400 mg/LDV 90 mg FDC once daily

N=217
- SOF/LDV FDC + RBV 1000-1200 mg divided BID

N=217
- SOF 400 mg/LDV 90 mg FDC once daily

N=217
- SOF/LDV FDC + RBV 1000-1200 mg divided BID

Cirrhosis allowed in up to 20%
Open-label

Afdhal, NEJM 2014; 370:1889-98
ION-1: SOF/LDV in Naïve GT1

3 virologic failures: 2 relapses, 1 breakthrough (suspected nonadherence)

Afdhal, NEJM 2014; 370:1889-98
Sofosbuvir/Ledipasvir Phase 3 Experienced: ION-2

N=109
SOF 400 mg/LDV 90 mg FDC once daily

N=111
SOF/LDV FDC + RBV 1000-1200 mg divided BID

N=109
SOF 400 mg/LDV 90 mg FDC once daily

N=111
SOF/LDV FDC + RBV 1000-1200 mg divided BID

Baseline characteristics:
- 79% genotype 1a (vs 1b)
- 88% non-CC
- 20% cirrhosis
- 52% prior P/R/PI failure

Week 0 12 24

Cirrhosis allowed in up to 20%
Open-label

Afdhal, NEJM 2014; 370: 1483-93
ION-2: SOF/LDV in Experienced GT1

Relapses (n)
- S/L x 12: 7
- S/L x 24: 0
- S/L/R x 12: 6
- S/L/R x 24: 0

Viro BT
- S/L x 12: 0
- S/L x 24: 0
- S/L/R x 12: 0
- S/L/R x 24: 1

Afdhal, NEJM 2014; 370: 1483-93
ION-2: Cirrhosis was only baseline predictor of SVR

Afdhal, NEJM 2014; 370: 1483-93
Sofosbuvir/Ledipasvir Phase 3 Naïve: ION-3 (8 vs 12 wks)

N=215
- SOF 400 mg/LDV 90 mg FDC once daily

N=216
- SOF/LDV FDC + RBV 1000-1200 mg div BID

N=216
- SOF 400 mg/LDV 90 mg FDC once daily

Baseline characteristics:
- 80% genotype 1a (vs 1b)
- 19% black
- 6% Hispanic
- 75% non-CC
- Excluded cirrhotics

Open-label

Kowdley, NEJM 2014; 370: 1979-88
The 8 week regimens met prespecified noninferiority criteria.

No virologic breakthroughs on treatment.

23 patients with relapse: 15/23 had NS5a RAVs; no SOF resistance detected.

Kowdley, NEJM 2014; 370: 1979-88
Sofosbuvir/Ledipasvir Phase 3 HIV/HCV: ION-4

N=335

SOF 400 mg/LDV 90 mg FDC once daily

Baseline characteristics:
- 82% male
- 98% genotype 1
- 76% non-IL28B CC
- 55% treatment-experienced
- 20% with cirrhosis
- Median CD4 628
- ART:
  - Efavirenz 48%
  - Raltegravir 44%
  - Rilpivirine 9%

Genotype 1 or Genotype 4
Cirrhosis allowed in up to 20%
Open-label, single arm
HIV RNA<50, CD4>100
Permitted ART: TDF/FTC, EFZ, RPV, RAL

Naggie, CROI 2015; Abs 152 LB
ION-4: SOF/LDV in HIV/HCV

Black participants had a statistically significant lower SVR12 on multivariate analysis
No other predictors of SVR

Naggie, CROI 2015; Abs LB 152
## SOF/LDV Adverse Effects

<table>
<thead>
<tr>
<th></th>
<th>ION-1 (n=214)</th>
<th>ION-2 (n=109)</th>
<th>ION-3* (n=431)</th>
<th>ION-4 (n=335)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discontinued for adverse events</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Fatigue</td>
<td>21%</td>
<td>21%</td>
<td>22%</td>
<td>21%</td>
</tr>
<tr>
<td>Insomnia</td>
<td>8%</td>
<td>9%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>25%</td>
<td>26%</td>
<td>15%</td>
<td>25%</td>
</tr>
<tr>
<td>Nausea</td>
<td>11%</td>
<td>12%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>11%</td>
<td>6%</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>Any AE (%)</td>
<td>79%</td>
<td>67%</td>
<td>68%</td>
<td>77%</td>
</tr>
<tr>
<td>Serious AE (n)</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

*pooled 8 and 12 week SOF/LDV groups

Afdhal, NEJM 2014; 370:1889-98
Afdhal, NEJM 2014; 370: 1483-93
Kowdley, NEJM 2014; 370: 1979-88
Naggie, CROI 2015, Abs 152 LB
### SOF/LDV and Antiretrovirals

<table>
<thead>
<tr>
<th>OK</th>
<th>NOT OK</th>
<th>NO DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abacavir</td>
<td>Elvitegravir/Cobicistat</td>
<td>Dolutegravir</td>
</tr>
<tr>
<td>Lamivudine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emtricitabine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efavirenz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raltegravir</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rilpivirine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atazanavir/r*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Darunavir/r*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lopinavir/r*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenofovir*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Monitor creatinine when using TDF, as exposure is higher when using with SOF/LDV
- Esp with TDF+boosted PIs + SOF/LDV, TDF exposure is 30-60% higher than with ARVs alone

Harvoni Package Insert, Gilead Sciences
German, CROI 2015, Abs 82
Other important drug-drug interactions

- **Acid-reducing agents**: increased gastric pH decreases conc of ledipasvir
  - Separate aluminum and magnesium hydroxide by 4 hours
  - H2 blockers can be given at same time or 12 hours apart at doses equivalent to famotidine 40 mg BID
  - PPIs at doses equivalent to omeprazole 20 mg daily can be given simultaneously

- **Digoxin**: increased concentration of dig with coadministration

- **Anticonvulsants**: carbamazepine, phenytoin, phenobarbital, oxcarbazepine
  - Decrease concentration of sofosbuvir/ledipasvir
  - Do not coadminister

- **St. John’s wort**: do not coadminister

- **Rosuvastatin**: increased concentration; avoid coadministration

---

Harvoni Package Insert, Gilead Sciences
Paritaprevir/r+Dasabuvir+Ombitasvir+Ribavirin

- Paritaprevir = NS3/4A protease inhibitor
  - Must be boosted with ritonavir, similar to HIV protease inhibitors
- Dasabuvir = non-nucleoside NS5B polymerase inhibitor
- Ombitasvir = NS5A Inhibitor
- Marketed in US as “Viekira Pak”
  - 3 pills with food in AM, 1 pill with food in PM
  - Ribavirin taken separately
- FDA approved for Genotype 1 only, but has activity against genotype 4
- Can be used in severe renal impairment but no data in ESRD
- Not recommended in moderate to severe liver impairment, and contraindicated in Child-Pugh C cirrhosis
- Pregnancy Category B (BUT ribavirin is teratogenic)
- FDA Approved for use in HIV

Viekira Pak Package Insert, AbbVie
## Paritaprevir/r+Dasabuvir+Ombitasvir+Ribavirin
### Phase III Program

<table>
<thead>
<tr>
<th>Study</th>
<th>Patients</th>
<th>Treatment Regimen</th>
<th>SVR12</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEARL-II</td>
<td>GT-1b treatment-experienced, NO cirrhosis</td>
<td>3D + RBV x 12 wks (n=88) 3D only x 12 wks (n=91)</td>
<td>96.6% 100%</td>
</tr>
<tr>
<td>(M13-389)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEARL-III</td>
<td>GT1b treatment-naïve, NO cirrhosis</td>
<td>3D + RBV x 12 (n=210) 3D only x 12 (n=209)</td>
<td>99.5% 99.0%</td>
</tr>
<tr>
<td>(M13-961)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEARL-IV</td>
<td>GT1a naïve, NO cirrhosis</td>
<td>3D +RBV x 12 (n=100) 3D only x 12 (n=205)</td>
<td>97.0% 90.0%</td>
</tr>
<tr>
<td>(M14-002)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TURQUOISE-II</td>
<td>GT 1 Naïve and Exp with Cirrhosis</td>
<td>3D +RBV x 12 (n=208) 3D +RBV x 24 (n=172)</td>
<td>91.8% 95.9%</td>
</tr>
<tr>
<td>(M13-099)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAPPHIRE-I</td>
<td>GT-1 Naïve NO cirrhosis</td>
<td>3D + RBV x 12 (n=473)</td>
<td>96.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAPPHIRE-II</td>
<td>GT1 experienced; NO cirrhosis</td>
<td>3D + RBV x 12 (n=297)</td>
<td>96.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3D= Paritaprevir 150 mg QD + ritonavir 150 mg QD + ombitasvir 25 mg QD + dasabuvir 250 mg BID

Andreone, Gastro 2014; 147: 359-365
Feld, NEJM 2014;370 1594-1603
Zeuzem, NEJM 2014; 370:1604-14
TURQUOISE-1: Phase 2/3 HIV/HCV (Interim Results)

N=31  
3D + Ribavirin x 12 wks

N=32  
3D + Ribavirin x 24 weeks

Baseline characteristics:  
89% genotype 1a (vs 1b)  
24% black  
19% cirrhosis  
33% Treatment-experienced  
Mean CD4>600

ARVs: TDF, FTC, ATV, RAL  
Cirrhosis allowed  
Included naïve and IFN-experienced  
CD4>200

Wyles, AASLD 2014; Abs 1939
TURQUOISE-1: Interim Results

Response rates (%)

<table>
<thead>
<tr>
<th>12 weeks (n=31)</th>
<th>24 weeks (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RVR 100</td>
<td>RVR 100</td>
</tr>
<tr>
<td>EOTR 96.8</td>
<td>EOTR 96.9</td>
</tr>
<tr>
<td>SVR4 93.5</td>
<td>SVR4 93.8</td>
</tr>
<tr>
<td>SVR12 93.5</td>
<td>SVR12 90.6</td>
</tr>
</tbody>
</table>

12 week group: 1 withdrew consent, 1 had relapse at post-treatment week 4 with resistance detected
24 week group: 1 had breakthrough during treatment; 2 were probably sexually reinfected because virus was different

Wyles AASLD 2014 Abs 1939
## Paritaprevir/r+Dasabuvir+Ombitasvir+Ribavirin

### Adverse Effects

<table>
<thead>
<tr>
<th></th>
<th>Placebo Cont</th>
<th>Reg Cont</th>
<th>All Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3D+RBV N=770</td>
<td>Placebo N=255</td>
<td>3D+RBV N=401</td>
</tr>
<tr>
<td>Discontinued for adverse events</td>
<td>0.8%</td>
<td>0.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>34.2%</td>
<td>26.3%</td>
<td>29.9%</td>
</tr>
<tr>
<td>Insomnia</td>
<td>14.0%</td>
<td>7.5%</td>
<td>12.2%</td>
</tr>
<tr>
<td>Headache</td>
<td>34.3%</td>
<td>29.8%</td>
<td>24.4%</td>
</tr>
<tr>
<td>Nausea</td>
<td>22.3%</td>
<td>14.9%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>13.5%</td>
<td>9.0%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Pruritus</td>
<td>15.7%</td>
<td>4.3%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Asthenia</td>
<td>13.5%</td>
<td>6.7%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Rash</td>
<td>10.0%</td>
<td>5.9%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Any AE (%)</td>
<td>89.0%</td>
<td>76.9%</td>
<td>82.8%</td>
</tr>
<tr>
<td>Serious AE (%)</td>
<td>2.1%</td>
<td>0.4%</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

Fried, AASLD 2014 Abs 1951
Paritaprevir/r+Dasabuvir+Ombitasvir+Ribavirin
Lab Abnormalities

<table>
<thead>
<tr>
<th></th>
<th>Placebo Cont</th>
<th>Reg Cont</th>
<th>All Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3D+RBV</td>
<td>Placebo</td>
<td>3D+RBV</td>
</tr>
<tr>
<td></td>
<td>N=770</td>
<td>N=255</td>
<td>N=401</td>
</tr>
<tr>
<td>Hemoglobin, %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10 g/dL</td>
<td>5.5%</td>
<td>0</td>
<td>6.2%</td>
</tr>
<tr>
<td>&lt;8 g/dL</td>
<td>0.1%</td>
<td>0</td>
<td>0.5%</td>
</tr>
<tr>
<td>ALT&gt;5 x ULN</td>
<td>1.2%</td>
<td>3.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Baseline ALT&gt;5x ULN</td>
<td>0.9%</td>
<td>1.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Total Bilirubin &gt;3 x ULN</td>
<td>2.6%</td>
<td>0</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

Fried, AASLD 2014 Abs 1951
Paritaprevir/r+Dasabuvir+Ombitasvir+Ribavirin and Antiretrovirals

**OK**
- TDF/FTC
- Raltegravir
- Atazanavir (hold ritonavir booster)

**NOT OK**
- Darunavir
- Lopinavir/ritonavir
- Rilpivirine

**NO DATA**
- All others
Paritaprevir/r/Ombitasvir/Dasabuvir: Contraindicated Drugs

- Anticonvulsants: carbamazepine, phenytoin, phenobarbital
- Alfusozin
- Gemfibrozil
- Rifampin
- Ergot derivatives
- Ethinyl estradiol-containing products
- St. John’s wort
- Lovastatin, simvastatin
- Pimozide
- Sildenafil (at PAH doses)
- Triazolam
Paritaprevir/r/Ombitasvir/Dasabuvir and other Drug Interactions

- **Antiarrythmics**: amiodarone, bepridil, disopyramide, flecainide, lidocaine, mexiletine, propafenone, quinidine → monitor levels when possible
- **Amlodipine**: consider dose reduction for amlodipine due to increased levels
- **Fluticasone** (inhaled/nasal): use alternative steroid while on treatment
- **Pravastatin, rosvastatin**: limit dose; do not use with other statins
- **Cyclosporine**: reduce CSA dose to 1/5th when starting P/r/O/D and follow levels
- **Tacrolimus**: reduce dose when starting; usual dose 0.5 mg weekly
- **Salmeterol**: not recommended due to increased risk of CV events
- **Omeprazole**: may lead to decreased efficacy of omeprazole
- **Alprazolam**: dose may need to be decreased

*Viekira Pak Package Insert, Abbvie*
### COSMOS: Simeprevir + Sofosbuvir +/- RBV

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMV 150 QD+SOF 400 QD + RBV 1000-1200 div BID</td>
<td></td>
</tr>
<tr>
<td>SMV +SOF</td>
<td></td>
</tr>
<tr>
<td>SMV+SOF+RBV</td>
<td></td>
</tr>
<tr>
<td>SMV+SOF</td>
<td></td>
</tr>
</tbody>
</table>

#### Cohort Breakdown

<table>
<thead>
<tr>
<th>Cohort 1: Prior Nulls, F0-F2</th>
<th>Cohort 2: Naïve &amp; Nulls, F3-F4</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Total: 80</td>
<td>87</td>
</tr>
</tbody>
</table>

*Lawitz, Lancet 2014 384: 1756-65*
COSMOS: Simeprevir + Sofosbuvir

<table>
<thead>
<tr>
<th></th>
<th>Cohort 1</th>
<th>Cohort 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMV/SOF+RBV x 24</td>
<td>20/24</td>
<td>28/30</td>
</tr>
<tr>
<td>SMV/sov x 24</td>
<td>14/15</td>
<td>16/16</td>
</tr>
<tr>
<td>SMV/SOF+RBV x 12</td>
<td>26/27</td>
<td>26/27</td>
</tr>
<tr>
<td>SMV/sov x 12</td>
<td>13/14</td>
<td>14/14</td>
</tr>
<tr>
<td>Overall</td>
<td>73/80</td>
<td>87/87</td>
</tr>
</tbody>
</table>

Lawitz, Lancet 2014; 384:1756-65
Summary and Conclusions

• Interferon is becoming obsolete, although it is still indicated for selected patients

• Combinations of direct acting antivirals have become the new standard of care
  – Not all combinations have proven to be effective
  – Not a “mix and match” like HIV antiretrovirals

• Three currently approved combinations for genotype 1:
  – Sofosbuvir-ledipasvir
  – Paritaprevir-ombitasvir-dasabuvir (with ritonavir and ribavirin)
  – Sofosbuvir-simeprevir
Which patient characteristic has been shown to correlate with lower SVR rates in clinical trials of interferon-free regimens?

1. Female sex
2. Older age
3. Genotype 1b
4. Cirrhosis
5. Comorbid diabetes
Question 1 Answer

Which patient characteristic has been shown to correlate with lower SVR rates in clinical trials of interferon-free regimens?

4. Cirrhosis
Of the following, which is the best antiretroviral regimen to use with sofosfuvir/ledipasvir?

1. Tenofovir/emtricitabine/elvitegravir/cobicistat
2. Tenofovir/emtricitabine/rilpivirine
3. Tenofovir/emtricitabine/darunavir/ritonavir
4. Abacavir/lamivudine/dolutegravir
5. Abacavir/lamivudine/raltegravir
Question 2 Answer

Of the following, which is the best antiretroviral regimen to use with sofosfuvir/ledipasvir?

5. Abacavir/lamivudine/raltegravir
ACTHIV 2015: A State-of-the-Science Conference for Frontline Health Professionals

Activity Code FA663