Failure with All-oral DAA Regimens: Real-world experience from the TRIO Network

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Abstract LB-17

TRIO: Data Elements Collected

**Patient Demographics**
- Age
- Gender
- Ethnicity
- BMI

**Clinical Demographics**
- Q80K (<5%)
- IL-28
- Baseline Labs
  - ALT / AST, Hemoglobin, Platelets,
  - Serum Creatinine, Viral Load
- Co-infection
  - HIV, HBV
- Co-morbid
  - Anxiety, Depression, Diabetes
- Genotype / Subtype
- Cirrhosis / Fibrosis Score

**Treatment Specifications**
- Prior Transplant
- Prior Treatment Status
  - Naive, Experienced
- Prior Treatment Response
  - Partial Responder, Responder Relapse,
    - Null Responder
- Prior Treatment Regimen
- Current Treatment Regimen
  - Intended Regimen / Duration, Dispensed
    - Regimen / Duration
- Drug Dispense Information
  - NDC, Date, Dose, Days Supplied, Units
- Treatment Outcomes
  - Discontinuation, EOT, SVR4, SVR12
TRIO: Patient Disposition

Treated with 12 Weeks of Therapy
(n=1685)

LDV-SOF
(n=1521)

LDV-SOF+RBV
(n=76)

SMV+SOF+/-RBV
(n=41)

OBV/PTV/r + DSV +/-RBV
(n=47)

Death (n=3)
LTFU (n=33)
DC (n=9)

Death (n=0)
LTFU (n=1)
DC (n=1)

Death (n=0)
LTFU (n=1)
DC (n=1)

Death (n=0)
LTFU (n=1)
DC (n=1)

SVR Achieved
(n=1432)

SVR Not Achieved
(n=44)

SVR Achieved
(n=74)

SVR Not Achieved
(n=0)

SVR Achieved
(n=32)

SVR Not Achieved
(n=5)

SVR Achieved
(n=43)

SVR Not Achieved
(n=2)

TRIO: Baseline Demographics

Patients on a 12 week regimen, n = 1685
Patient Demographics and Clinical Characteristics at Baseline

<table>
<thead>
<tr>
<th>Group - no. (%)</th>
<th>LDV-SOF 12 Week n=1521</th>
<th>LDV-SOF + RBV 12 Week n=76</th>
<th>SMV + SOF +/- RBV 12 Week n=41</th>
<th>OBV/PTV/r + DSV +/- RBV 12 Week n=47</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Practice - no. (%)</td>
<td>611 (40%)</td>
<td>65 (80%)</td>
<td>23 (56%)</td>
<td>19 (46%)</td>
</tr>
<tr>
<td>Age - mean (range)</td>
<td>60 (19-89)</td>
<td>59 (40-73)</td>
<td>60 (38-80)</td>
<td>58 (32-80)</td>
</tr>
<tr>
<td>Male - no. (%)</td>
<td>868 (57%)</td>
<td>56 (74%)</td>
<td>23 (56%)</td>
<td>28 (60%)</td>
</tr>
<tr>
<td>Patient Ethnicity - no. (%)</td>
<td>53 (3%)</td>
<td>1 (1%)</td>
<td>0 (0%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Black</td>
<td>234 (15%)</td>
<td>11 (14%)</td>
<td>5 (12%)</td>
<td>9 (19%)</td>
</tr>
<tr>
<td>Hispanic/Latin</td>
<td>100 (7%)</td>
<td>5 (7%)</td>
<td>2 (5%)</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>8 (1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>White</td>
<td>742 (49%)</td>
<td>52 (68%)</td>
<td>16 (39%)</td>
<td>23 (49%)</td>
</tr>
<tr>
<td>Other</td>
<td>12 (1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>372 (24%)</td>
<td>7 (9%)</td>
<td>18 (44%)</td>
<td>10 (21%)</td>
</tr>
<tr>
<td>Baseline Labs</td>
<td>60 (59), n=1391</td>
<td>82 (63), n=74</td>
<td>66 (79), n=33</td>
<td>83 (108), n=45</td>
</tr>
<tr>
<td>ALT - mean (s.d.)</td>
<td>62 (46), n=1382</td>
<td>78 (48), n=74</td>
<td>60 (50), n=32</td>
<td>64 (44), n=45</td>
</tr>
<tr>
<td>AST - mean (s.d.)</td>
<td>14 (7), n=1464</td>
<td>14 (2), n=73</td>
<td>14 (1), n=34</td>
<td>15 (2), n=45</td>
</tr>
<tr>
<td>Platelets &lt;100 K/ml - no. (%)</td>
<td>142 (11%)</td>
<td>15 (21%)</td>
<td>7 (21%)</td>
<td>6 (14%)</td>
</tr>
<tr>
<td>Platelets &gt;=100 K/ml - no. (%)</td>
<td>1197 (89%)</td>
<td>58 (79%)</td>
<td>27 (79%)</td>
<td>38 (86%)</td>
</tr>
<tr>
<td>Genotype - no. (%)</td>
<td>1017 (67%)</td>
<td>57 (75%)</td>
<td>28 (68%)</td>
<td>26 (55%)</td>
</tr>
<tr>
<td>1a</td>
<td>433 (28%)</td>
<td>16 (21%)</td>
<td>13 (32%)</td>
<td>21 (45%)</td>
</tr>
<tr>
<td>1b</td>
<td>7 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>1Unknown</td>
<td>64 (4%)</td>
<td>3 (4%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

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TRIO: SVR12 Rates by Regimen

- LDV-SOF
- LDV-SOF+RBV
- SMV+SOF+/-RBV
- OBV/PTV/r + DSV

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TRIO: SVR12 Rates by Genotype

- GT1a
- GT1b

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TRIO: SVR12 Rates by Baseline Viral Load

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TRIO: SVR12 Rates by Treatment Status

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**TRIO: Predictors of Response OBV/PTV/r + DSV +/-RBV**

*HIV excluded due to n<5 in HIV population. Post Transplant excluded due to n<5 in Post-Transplant population.

*Closed circles= proportions; whiskers = 95% confidence interval; dotted lines = overall SVR12; 2-side asympt. p-value via Pearson c2.*

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**Variable** | **Full Population Distribution % (n)** | **Treatment Failure Distribution % (n)** | **p-value**
--- | --- | --- | ---
Platelets<100k/ml Platelets 100k+/ml | 11% (170) 89% (1320) | 40% (19) 60% (29) | <0.001
Cirrhosis No Cirrhosis | 31% (504) 69% (1138) | 70% (35) 30% (15) | <0.001
Outside FDA Guidelines Inside FDA Guidelines | 10% (149) 90% (1536) | 33% (17) 37% (34) | <0.001
Male Female | 58% (975) 42% (710) | 76% (39) 24% (12) | 0.008

*Patients outside of guidelines: GT1a on VKP without RBV, tx failure cirrhotic patients on 12 weeks of VKP/+/-RBV, LDV-SOF without RBV, or SMV+SOF/+/-RBV

*2-side asymt. p-value via Pearson c2.*

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TRIO: Conclusions

- Overall SVR in real world Genotype 1 HCV patients is 94% across all DAA therapies.
- 149 patients were treated outside of FDA guidelines and saw a significantly lower SVR rate (84% SVR outside vs. 95% SVR inside).
- Platelets <100k/ml, cirrhosis, prescribing outside of FDA guidelines, and males all had a positive association with treatment failures.
- Practice type, ethnicity, genotype subtype, baseline viral load, post transplant, age, treatment status, and HIV had no clear association with treatment failures.
- Overall discontinuation rate was <1% (12/1685).

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