Ledipasvir-Sofosbuvir +/- Ribavirin in HCV Genotype 1

ION-1

Ledipasvir-Sofosbuvir +/- Ribavirin in Treatment-Naïve HCV GT 1
ION-1 Study: Features

- **Design**: Open-label, randomized, phase 3 trial using fixed-dose combination of ledipasvir-sofosbuvir +/- ribavirin for 12 or 24 weeks in treatment-naïve patients with GT1 HCV
- **Setting**: 99 sites in United States and Europe
- **Entry Criteria**
  - Chronic HCV genotype 1 (n = 865)
  - 18 years or older
  - No prior HCV treatment
  - Patients with compensated cirrhosis accepted (up to 20% of patients)
- **Primary End Point**: SVR12

Ledipasvir-Sofosbuvir +/- Ribavirin in Treatment-Naïve HCV GT 1
ION-1 Study: Study Design

### Abbreviations:
- LDV-SOF = ledipasvir-sofosbuvir
- RBV = ribavirin

### Drug Dosing:
- Ledipasvir-sofosbuvir (90/400 mg): fixed dose combination; one pill once daily
- Ribavirin (weight-based and divided bid): 1000 mg/day if < 75 kg or 1200 mg/day if ≥ 75 kg

**Ledipasvir-Sofosbuvir +/- Ribavirin in Treatment-Naïve HCV GT 1 ION-1 Study: Baseline Characteristics**

<table>
<thead>
<tr>
<th>Baseline Characteristic</th>
<th>12-Week Treatment</th>
<th>24-Week Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LDV-SOF (n = 214)</td>
<td>LDV-SOF + RBV (n = 217)</td>
</tr>
<tr>
<td>Mean age, y (range)</td>
<td>52 (18–75)</td>
<td>52 (18–78)</td>
</tr>
<tr>
<td>BMI, kg/m² mean (range)</td>
<td>27 (18–41)</td>
<td>27 (18–42)</td>
</tr>
<tr>
<td>Male sex, n (%)</td>
<td>127 (59)</td>
<td>128 (59)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, n (%)</td>
<td>187 (87)</td>
<td>188 (87)</td>
</tr>
<tr>
<td>Black, n (%)</td>
<td>24 (11)</td>
<td>26 (12)</td>
</tr>
<tr>
<td>Hispanic ethnic group, n (%)</td>
<td>26 (12)</td>
<td>20 (9)</td>
</tr>
<tr>
<td>HCV Genotype</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a, n (%)</td>
<td>144 (67)</td>
<td>148 (68)</td>
</tr>
<tr>
<td>1b, n (%)</td>
<td>66 (31)</td>
<td>68 (31)</td>
</tr>
<tr>
<td>IL28B non CC, n (%)</td>
<td>175 (76)</td>
<td>141 (65)</td>
</tr>
<tr>
<td>Cirrhosis, n (%)</td>
<td>34 (16)</td>
<td>33 (15)</td>
</tr>
<tr>
<td>HCV RNA, log₁₀ IU/mL (mean)</td>
<td>6.4</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Ledipasvir-Sofosbuvir +/- Ribavirin in Treatment-Naïve HCV GT 1
ION-1 Study: Results

ION-1: SVR 12* by Treatment Duration and Regimen

![Bar chart showing SVR 12% for different regimens.]

- **12-Week Regimen**
  - LDV-SOF: 99% (95% CI, 96-100) (211/214 patients)
  - LDV-SOF + RBV: 97% (95% CI, 94-99) (211/217 patients)

- **24-Week Regimen**
  - LDV-SOF: 98% (95% CI, 95-99) (212/217 patients)
  - LDV-SOF + RBV: 99% (95% CI, 93-98) (215/217 patients)

**Abbreviations**: LDV-SOF=Ledipasvir-sofosbuvir; RBV=ribavirin

*Primary end-point by intention-to-treat analysis*

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ION-1 Study: Results

ION-1: SVR12 by Treatment Regimen and Liver Disease

Ledipasvir-Sofosbuvir +/- Ribavirin in Treatment-Naïve HCV GT 1
ION-1 Study: Results for Ledipasvir-Sofosbuvir

ION-1: SVR12 by Treatment Duration and Liver Disease

Ledipasvir-Sofosbuvir +/- Ribavirin in Treatment-Naïve HCV GT 1 ION-1 Study: Resistance Data

- **NS5A resistant variants**
  - Baseline resistance in 140 (16%) of 861 patients tested
  - SVR12 in 135 (96%) of 140 patients with NS5A resistance
  - 2 of the 3 patients with virologic failure had baseline NS5A resistance

**Conclusions:** “Once-daily ledipasvir–sofosbuvir with or without ribavirin for 12 or 24 weeks was highly effective in previously untreated patients with HCV genotype 1 infection.”

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