2.0 Synopsis

<table>
<thead>
<tr>
<th>AbbVie Inc.</th>
<th>Individual Study Table Referring to Part of Dossier:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name of Study Drug:</strong></td>
<td>Volume:</td>
</tr>
<tr>
<td>Ombitasvir (OBV), ABT-450 (paritaprevir [PTV]), ritonavir (r), sofosbuvir (SOF), ribavirin (RBV)</td>
<td>Page:</td>
</tr>
<tr>
<td><strong>Name of Active Ingredient:</strong></td>
<td>(For National Authority Use Only)</td>
</tr>
<tr>
<td><strong>ombitasvir:</strong> Dimethyl ([(2S,5S)-1-(4-tert-butylphenyl) pyrrolidine-2,5-diyl]bis{benzene-4,1-diylcarbamoyl(2S)pyrrolidine-2,1-diyl}[(2S)-3-methyl-1-oxobutane-1,2-diyl]) bis carbamate hydrate</td>
<td></td>
</tr>
<tr>
<td><strong>ABT-450 (paritaprevir):</strong> [(2R,6S,12Z,13aS,14aR,16aS)-N-(cyclopropylsulfonyl)-6-{[(5-methylpyrazin-2-yl)carbonyl]amino}-5,16-dioxo-2-(phenanthridin-6-yl)oxy} (1,2,3,6,7,8,9,10,11,13a,14,15,16,16) (a)-tetradecahydrocycloprop[e]pyrrolo[1,2-(a)][1,4]diazacyclopentadecine-14a(5H)-carboxamide hydrate</td>
<td></td>
</tr>
<tr>
<td><strong>ritonavir:</strong> 10-Hydroxy-2-methyl-5-(1-methylethyl)-1-(2-(1-methylethyl)-4-thiazolyl)-3,6-dioxo-8,11-bis(phenylmethyl)-2,4,7,12-tetraazatridecane-13-oic acid, 5-thiazolymethyl ester, [5S-(5R*,8R*,10R*,11R*)]</td>
<td></td>
</tr>
<tr>
<td><strong>sofosbuvir:</strong> (S)-Isopropyl 2-{(S)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl]methoxy}-(phenoxy)phosphorylamino)propanoate</td>
<td></td>
</tr>
<tr>
<td><strong>ribavirin:</strong> 1-β-D-ribofuranosyl-1H-1,2,4-triazole-3-carboxamide</td>
<td></td>
</tr>
</tbody>
</table>
**Title of Study:** A Randomized, Open-Label Study to Evaluate the Safety and Efficacy of the Co-Administration of Ombitasvir/ABT-450/Ritonavir (Ombitasvir/ABT-450/r) With Sofosbuvir (SOF) With or Without Ribavirin (RBV) in Subjects With Genotype 2 Chronic Hepatitis C Virus (HCV) Infection or Genotype 3 HCV Infection With or Without Cirrhosis

**Coordinating Investigator:**

**Study Sites:** 5 sites in Australia, Canada, New Zealand, and the United Kingdom

**Publications:** 2 abstracts and 1 paper

<table>
<thead>
<tr>
<th>Studied Period (Years):</th>
<th>Phase of Development:</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Subject First Visit: 19 December 2014</td>
<td>2</td>
</tr>
<tr>
<td>Last Subject Last Visit: 14 July 2017</td>
<td></td>
</tr>
</tbody>
</table>

**Objectives:** The primary objectives of this study were to assess the safety and efficacy (the percentage of subjects achieving a 12-week sustained virologic response ([SVR12] [HCV ribonucleic acid (RNA) < lower limit of quantification (LLOQ) 12 weeks following treatment]) of coformulated OBV with PTV and ritonavir (OBV/PTV/r) coadministered with SOF with or without RBV in treatment-naïve and prior (pegylated interferon [pegIFN], RBV, and/or SOF) treatment-experienced adults with genotype (GT)2 HCV infection without cirrhosis or GT3 HCV infection with compensated cirrhosis or without cirrhosis. The secondary objectives of this study were to assess the percentage of subjects with virologic failure during treatment in each treatment arm, assess the percentage of subjects with post-treatment (PT) relapse in each treatment arm, and characterize the pharmacokinetics (PK) of direct-acting antiviral agents (DAAs) including ritonavir, SOF, GS-331007 (predominant circulating metabolite of SOF), and RBV (when applicable).

**Methodology:** This was a Phase 2, randomized, open-label, multicenter study evaluating the safety and efficacy of coformulated OBV/PTV/r coadministered with SOF with or without RBV in treatment-naïve and prior (pegIFN, RBV, and/or SOF) treatment-experienced adults with GT2 HCV infection without cirrhosis or GT3 HCV infection with compensated cirrhosis or without cirrhosis. Approximately 70 subjects were to be enrolled into 1 of 6 treatment arms. Subjects with GT3 HCV infection without cirrhosis were initially randomized to Arms A and B in a 1:1 ratio (approximately 10 subjects each). Randomization to Arms A and B was stratified by interleukin 28B (IL28B) genotype (CC versus non-CC) and prior treatment status (treatment-naïve versus treatment experienced). Arms C and D were to be enrolled sequentially. Approximately 10 GT2-infected subjects without cirrhosis were enrolled into Arm C, and Arm D was to be initiated based on evaluation of all available efficacy results from Arm C once all subjects in Arm C reached PT Week 4, if no more than 1 subject who completed treatment in Arm C relapsed through PT Week 4. Approximately 20 GT3-infected subjects with compensated cirrhosis, including a minimum of approximately 20% with prior treatment experience, were also to be enrolled in open-label fashion into Arm E, and an additional 10 GT3-infected subjects without cirrhosis were to be enrolled in open-label fashion into Arm F.

The duration of the study was to be up to 60 weeks long (not including a Screening Period of up to 35 days) consisting of 2 periods: the Treatment Period and the PT Period. All subjects who completed or prematurely discontinued the Treatment Period were to be followed for 48 weeks to monitor safety, HCV RNA, the persistence of resistant viral mutants, and assessment of patient-reported outcomes (PROs).
Number of Subjects (Planned and Analyzed):
Planned: Approximately 70 subjects.
Analyzed: 70 subjects were enrolled and received at least 1 dose of study drug (9 in Arm A, 11 in Arm B, 10 in Arm C, 9 in Arm D, 21 in Arm E, and 10 in Arm F).

Diagnosis and Main Criteria for Inclusion:
Main Inclusion Criteria:
- Male or female at least 18 years of age at time of screening.
- Chronic HCV infection prior to study enrollment. Chronic HCV infection was defined as 1 of the following:
  - Positive for anti-HCV Antibody (Ab) or HCV RNA at least 6 months before screening, and positive for HCV RNA and anti-HCV Ab at the time of screening; or
  - HCV RNA > 10,000 IU/mL at the time of screening with a liver biopsy consistent with chronic HCV infection (or a liver biopsy performed prior to enrollment with evidence of chronic hepatitis C disease).
- Screening laboratory results from the central clinical laboratory indicating either HCV GT2 or GT3 infection only (no mixed genotype).
- Subjects must have been able to understand and adhere to the study visit schedule and all other protocol requirements and must have voluntarily signed and dated an informed consent.

Subjects without cirrhosis must have met the following criteria:
- Absence of cirrhosis, as documented by meeting 1 of the following criteria (per local standard practice):
  - Liver biopsy within 24 months prior to screening or during screening demonstrating the absence of cirrhosis.
  - Only in the absence of a biopsy within the 24 months prior to screening or during screening:
    - a screening FibroTest score of ≤ 0.72 and aspartate aminotransferase-to-platelet ratio index (APRI) ≤ 2; or
    - a screening transient elastography (e.g., FibroScan®) result of < 12.5 kPa.

Subjects with a FibroScan result that was ≥ 12.5 kPa and < 14.6 kPa, or a FibroTest result that was ≤ 0.72 and an APRI > 2, or a FibroTest result that was ≥ 0.73 and an APRI ≤ 2, must have had a liver biopsy performed within 24 months prior to screening showing no evidence of cirrhosis, or in the absence of an available biopsy results within 24 months prior to screening, could have undergone a liver biopsy during screening to rule out cirrhosis. The result of the liver biopsy was considered the decisive result for study eligibility and subjects were enrolled as noncirrhotic only if the biopsy performed within the previous 24 months or during the Screening Period showed no evidence of cirrhosis.
Diagnosis and Main Criteria for Inclusion (Continued):
Main Inclusion Criteria (Continued):
Subjects with cirrhosis must have met the following criteria:
- Must have been considered cirrhotic, as documented by meeting 1 of the following criteria (per local standard practice):
  - Liver biopsy within the 24 months prior to screening or performed during the Screening Period demonstrating the presence of cirrhosis.
  - Only in the absence of a biopsy within the 24 months prior to screening or during screening:
    - a screening FibroTest score of ≥ 0.73 and APRI > 2; or
    - a screening FibroScan result of ≥ 14.6 kPa.
Subjects with a FibroScan result that was ≥ 12.5 kPa and < 14.6 kPa; or a FibroTest result that was ≤ 0.72 and an APRI > 2; or a FibroTest result that was ≥ 0.73 and an APRI ≤ 2, must have had a liver biopsy performed within 24 months prior to screening showing evidence of cirrhosis, or in the absence of an available biopsy result within 24 months prior to screening, could have undergone a liver biopsy during screening to demonstrate the presence of cirrhosis.
- Compensated cirrhosis defined as Child-Pugh score of ≤ 6 at screening and no current or past clinical evidence of Child-Pugh B or C Classification or clinical history of liver decompensation including ascites noted on physical exam or imaging, bleeding varices, hepatic encephalopathy or jaundice due to liver insufficiency. Subjects who received beta-blockers, diuretics, or medications to suppress hepatic encephalopathy may have had a history of decompensated disease and were only to be enrolled with approval of the study designated physician (SDP).
- Absence of hepatocellular carcinoma (HCC) as indicated by serum alpha fetoprotein < 100 ng/mL at screening and a negative ultrasound, computed tomography (CT) scan, or magnetic resonance imaging (MRI) for HCC within 3 months prior to screening or at screening. Subjects who had an ultrasound with results suspicious of HCC followed by a subsequent negative CT or MRI of the liver for HCC were eligible for the study.
Main Exclusion Criteria:
- Females who were pregnant or planned to become pregnant or breastfeeding, or males whose partners were pregnant or planned to become pregnant within 7 months (or per local RBV label) after their last dose of study drug.
- Recent (within 6 months prior to study drug administration) history of drug or alcohol abuse that could have precluded adherence to the protocol.
- Positive test result for hepatitis B surface antigen (HBsAg) or anti-human immunodeficiency virus (HIV) Ab positive.
Diagnosis and Main Criteria for Inclusion (Continued):

Main Exclusion Criteria (Continued):

- Current enrollment in another clinical study, previous enrollment in this study, or previous use of any investigational or commercially available anti-HCV therapy (other than interferon, pegIFN, RBV, and or SOF) including previous exposure to telaprevir, boceprevir, PTV, OBV, simeprevir, ledipasvir, and daclatasvir. Subjects whose only prior treatment experience included standard (non-pegylated) interferon were not eligible. However, subjects with a prior history of non-pegylated interferon therapy who were subsequently treated with pegIFN/RBV, pegIFN/RBV plus SOF, or SOF plus RBV may have been enrolled. The only exception was Arm D, where treatment experience with a SOF-containing regimen was exclusionary. Subjects who previously participated in trials of investigational anti-HCV agents may have been enrolled with approval of the AbbVie SDP if they could produce documentation that they received only placebo. Concurrent participation in a non-interventional, epidemiologic, or registry trial may have been permitted with approval by the AbbVie SDP.

Subjects without cirrhosis must not have met the following criteria:
- Any current or past clinical evidence of cirrhosis such as ascites or esophageal varices, or prior biopsy showing cirrhosis, e.g., a Metavir score > 3 or an Ishak score > 4.

Subjects without cirrhosis must not have met the following criteria:
- Screening laboratory analyses showing any of the following abnormal laboratory results:
  - Calculated creatinine clearance (using Cockcroft-Gault method) < 30 mL/min.
  - Albumin < lower limit of normal (LLN).
  - Prothrombin time/International normalized ratio (INR) > 1.5. Subjects with a known inherited blood disorder and INR > 1.5 may have been enrolled with permission of the AbbVie SDP.
  - Hemoglobin < LLN.
  - Platelets < 120,000 cells per mm$^3$.
  - Absolute neutrophil count (ANC) < 1,500 cells/µL (< 1,200 cells/µL for subjects of African descent who were black).
  - Indirect bilirubin > 1.5 × upper limit of normal (ULN) and direct bilirubin > ULN.

Subjects with cirrhosis must not have met the following criteria:
- Screening laboratory analyses showing any of the following abnormal laboratory results:
  - Calculated creatinine clearance (using Cockcroft-Gault method) < 30 mL/min.
  - Albumin < 2.8 g/dL.
  - International normalized ratio (INR) > 2.3. Subjects with a known inherited blood disorder and INR > 2.3 may have been enrolled with permission of the AbbVie SDP.
  - Hemoglobin < LLN.
  - Platelets < 25,000 cells per mm$^3$.
  - Absolute neutrophil count (ANC) < 1,500 cells/µL (< 1,200 cells/µL for subjects of African descent who were black).
  - Total bilirubin > 2.5 mg/dL.
**Test Product, Dose/Strength/Concentration, Mode of Administration and Lot Number:**

<table>
<thead>
<tr>
<th>Study Drug</th>
<th>Dosage Form</th>
<th>Mode of Administration</th>
<th>Strength</th>
<th>Manufacturer</th>
<th>Bulk Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ombitasvir/ABT-450/Ritonavir</td>
<td>Tablet</td>
<td>Oral</td>
<td>12.5 mg/75 mg/50 mg</td>
<td>AbbVie</td>
<td>13-001960, 15-000397</td>
</tr>
<tr>
<td>Sofosbuvir</td>
<td>Tablet</td>
<td>Oral</td>
<td>400 mg</td>
<td>Gilead Sciences Inc.</td>
<td>14-003784, 14-001427, 14-007182, 16-001045</td>
</tr>
<tr>
<td>Ribavirin</td>
<td>Tablet</td>
<td>Oral</td>
<td>200 mg</td>
<td>Roche or generic manufacturer</td>
<td>14-001215, 14-005989, 13-003091, 13-006278</td>
</tr>
</tbody>
</table>

Ombitasvir/ABT-450/ritonavir = OBV/PTV/r

**Duration of Treatment:** The treatment regimens were as follows:

- Arm A (GT3, noncirrhotic): OBV/PTV/r (1) + SOF (2) for 12 weeks.
- Arm B (GT3, noncirrhotic): OBV/PTV/r (1) + SOF (2) + RBV (3) for 12 weeks.
- Arm C (GT2, noncirrhotic): OBV/PTV/r (1) + SOF (2) + RBV (3) for 8 weeks.
- Arm D (GT2, noncirrhotic): OBV/PTV/r (1) + SOF (2) + RBV (3) for 6 weeks.
- Arm E (GT3, cirrhotic): OBV/PTV/r (1) + SOF (2) + RBV (3) for 12 weeks.
- Arm F (GT3, noncirrhotic): OBV/PTV/r (1) + SOF (2) for 12 weeks.

1. OBV/PTV/r 25/150/100 mg once daily (QD)
2. SOF 400 mg QD
3. Weight-based RBV: 1,000 mg or 1,200 mg daily divided twice daily (BID).

**Reference Therapy, Dose/Strength/Concentration and Mode of Administration and Lot Number:**
Not applicable.
Criteria for Evaluation

**Efficacy:**
Plasma HCV RNA in IU/mL was assessed at all Treatment Period visits and at all PT visits.

**Resistance:**
The following information was tabulated and summarized: 1) for all subjects, the variants at baseline at signature resistance-associated amino acid positions relative to the reference sequence, and 2) for subjects who did not achieve SVR\(_{12}\), all postbaseline variants relative to baseline.

**Patient-Reported Outcomes:**
Health State Utility was assessed using the EuroQol-5 Dimensions-5 Levels Health State Instrument (EQ-5D-5L) including its Visual Analog Scale (VAS) component. Fatigue severity was assessed using the Fatigue Severity Scale (FSS) including its Visual Analog Fatigue Scale (VAFS) component.

**Pharmacokinetic:**
Intensive PK samples were collected on Day 1 at 2, 4, and 6 hours post-DAA dosing and at the 2-week visit at predose and approximately 2, 4, and 6 hours post-DAA dose for measurement of concentrations of OBV, PTV, ritonavir, SOF, GS-331007 (predominant circulating metabolite of SOF), and RBV (when applicable). In addition, PK samples were collected at each study visit during treatment.

**Safety:**
Safety and tolerability were assessed by monitoring adverse events (AEs), physical examinations, clinical laboratory tests, 12-lead electrocardiograms, and vital signs.

### Statistical Methods

**Efficacy:**
The primary endpoint was the percentage of subjects with SVR\(_{12}\) (HCV RNA < LLOQ 12 weeks after the last actual dose of study drugs). The secondary endpoints were the percentage of subjects with virologic failure during treatment, and the percentage of subjects with relapse post-treatment. For the primary and secondary endpoints, the simple percentage of subjects meeting the endpoint was calculated, and a 2-sided 95% Wilson score confidence interval for a binomial proportion was computed.

**Resistance:**
The following resistance information was provided for all subjects: the amino acid polymorphisms at baseline at signature positions identified by population sequencing and comparison to the subtype-specific reference sequence.

The following resistance information was analyzed for subjects who did not achieve SVR\(_{12}\) and who had a postbaseline sample with HCV RNA \(\geq 1000\) IU/mL: 1) the amino acid variants in available postbaseline samples identified by population sequencing and comparison to the baseline sequence, 2) the amino acid variants in available postbaseline samples at signature amino acid positions identified by population or next-generation sequencing and comparison to the subtype-specific reference sequence.

**Patient-Reported Outcomes:**
Changes from baseline in the EQ-5D-5L health index score, the VAS response component of the EQ-5D-5L, FSS score, and VAFS component of the FSS were summarized for each applicable postbaseline visit by overall and by treatment arm, respectively.
**Statistical Methods (Continued)**

**Pharmacokinetic:**
Individual plasma concentrations of PTV, ritonavir, OBV, SOF, GS-331007, and RBV were tabulated and summarized. Values for the PK parameters of OBV, PTV, ritonavir, SOF, GS-331007, and RBV (when applicable) including the maximum observed plasma concentration \(C_{\text{max}}\), time to maximum observed plasma concentration \(T_{\text{max}}\), trough plasma concentration \(C_{\text{trough}}\), and area under the plasma concentration-time curve (AUC) were determined by noncompartmental methods using intensive PK blood sampling data in the study. Additional parameters or summaries may have been determined if useful in the interpretation of the data.

**Safety:**
The number and percentage of subjects reporting treatment-emergent AEs were tabulated by Medical Dictionary for Regulatory Activities (MedDRA) system organ class and preferred term for each treatment arm and overall. Tabulations by treatment arm were also provided in which the number of subjects who reported a treatment-emergent AE (MedDRA preferred term) was presented by severity (mild, moderate, or severe) and relationship to study drugs.

Change from baseline in laboratory tests and vital sign measurements to each time point of collection were summarized descriptively for each treatment arm. Laboratory test and vital sign values that were potentially clinically significant (PCS), according to predefined criteria, were identified and the number and percentage of subjects with PCS values during treatment were calculated for each treatment arm.

**Summary/Conclusions**

**Efficacy Results:**
In GT3-infected subjects with compensated cirrhosis or without cirrhosis, a 12-week regimen of OBV/PTV/r + SOF ± RBV achieved an overall SVR\(_{12}\) rate of 98.0\% (50/51) (95\% CI: 89.7\% – 99.7\%). SVR\(_{12}\) was achieved by 100\% (19/19) (95\% CI: 83.2\% – 100.0\%) of GT3-infected subjects without cirrhosis, who received OBV/PTV/r + SOF without RBV. SVR\(_{12}\) was achieved by 90.9\% (10/11) (95\% CI: 62.3\% – 98.4\%) and 100\% (21/21) (95\% CI: 84.5\% – 100.0\%) of GT3-infected subjects without and with cirrhosis, respectively, who received OBV/PTV/r + SOF + RBV.

In GT2-infected subjects without cirrhosis, an 8-week treatment with OBV/PTV/r + SOF + RBV resulted in an SVR\(_{12}\) rate of 90.0\% (9/10) (95\% CI: 59.6\% – 98.2\%). The SVR\(_{12}\) rate was low (44.4\%; 4/9) (95\% CI: 18.9\% – 73.3\%) among GT2-infected subjects treated for 6 weeks with the same regimen.

No subject experienced on-treatment virologic failure. One (10.0\%) GT2-infected subject treated for 8 weeks and 5 (55.6\%) GT2-infected subjects treated for 6 weeks experienced post-treatment relapse within 12 weeks following the end of treatment.

Sustained virologic response 24 weeks postdosing (SVR\(_{24}\)) rates were consistent with the primary efficacy results, with 100.0\% agreement between SVR\(_{12}\) and SVR\(_{24}\) in all treatment arms except Arm E (95.2\%); 1 subject in Arm E was missing SVR\(_{24}\) data. No subject experienced post-treatment relapse during the SVR\(_{24}\) window.
Summary/Conclusions (Continued)

Resistance Results:
Among the 4 GT2a- and 6 GT2b-infected subjects in Arm C, and the 5 GT2a- and 4 GT2b-infected subjects in Arm D, baseline polymorphisms in nonstructural viral protein 3 (NS3) among subjects with available sequence data at positions 36 or 56 were detected in 44.4% (4/9) of GT2-infected subjects in Arm C and 28.6% (2/7) of GT2-infected subjects in Arm D. Baseline nonstructural viral protein 5A (NS5A) polymorphisms, predominantly at amino acid position 31, were detected in 90.0% (9/10) of GT2-infected subjects in Arm C and 100% (9/9) of GT2-infected subjects in Arm D. Prevalence of NS3 and NS5A substitutions in GT3a-infected subjects in Arm A, B, E, or F was similar. Polymorphisms at amino acid positions in 166 or 168 in NS3, or 28, 30, or 93 in NS5A were detected in 29.2% (14/48) and 21.7% (11/51) of the GT3a-infected subjects. Baseline nonstructural viral protein 5B (NS5B) polymorphisms at amino acid positions important for nucleotide inhibitors were rare.

One of 4 GT2a-infected subjects in Arm C, 3 of 5 GT2a-infected subjects in Arm D, and 2 of 4 GT2b-infected subjects in Arm D experienced virologic failure. Given the low number of GT2a- and GT2b-infected subjects enrolled in Arms C and D and associated virologic failure rate, it is unclear if baseline polymorphisms (which do not confer resistance in vitro) contributed to virologic failure.

Among the 4 GT2a- and 2 GT2b-infected subjects experiencing virologic failure, common L36F or Y56F polymorphisms in NS3 were detected in 2 subjects and L/M31 polymorphisms in NS5A were detected in all subjects. Using a 15% next-generation sequencing detection threshold, treatment-emergent substitutions were not detected at the time of virologic failure in NS3, NS5A, or NS5B in any subject.

Patient-Reported Outcomes Results:
Mean improvement from baseline was observed for Arms A and F for EQ-5D-5L VAS score at the Final Treatment Visit and for all Arms by the Final PT Visit. No mean improvement was observed for the EQ-5D-5L health index score at the Final Treatment Visit and Final PT Visit. Subjects reported less impact of fatigue in Arms A, C, and E for the FSS VAFS score at the Final Treatment Visit and for Arms A and D by the Final PT Visit, and for Arms A, B, and F for the FSS score at the Final Treatment Visit and for Arms A, B, C, and F by the Final PT Visit.

Pharmacokinetic Results:
Subjects with compensated cirrhosis had higher PTV exposures than subjects without cirrhosis, while the exposures for OBV, ritonavir, RBV, SOF, and GS-331007 were generally comparable between subjects with compensated cirrhosis and without cirrhosis.
**Summary/Conclusions (Continued)**

**Safety Results:**
OBV/PTV/r + SOF ± RBV demonstrated a favorable safety profile when administered for 12 weeks in subjects with GT3 infection with compensated cirrhosis or without cirrhosis or for 6 or 8 weeks in subjects with GT2 infection without cirrhosis. Treatment-emergent AEs were mild or moderate in severity with the exception of events reported for 4 subjects who experienced severe AEs. Overall, the most common AEs were fatigue and headache. Three subjects experienced serious AEs (pneumonia, respiratory tract infection viral, and anemia in 1 subject each), none were related to DAAs; however, anemia was related to RBV.

Two subjects prematurely discontinued study drug due to non-serious AEs. One subject experienced an influenza-like illness that was considered unrelated to study drugs. The other subject experienced generalized pruritus and vertigo that were considered related to all study drugs, and muscular weakness that was considered related to DAAs.

No subject died during the study.

A total of 7 subjects experienced at least 1 AE that led to RBV dose modification. The most common AE leading to RBV dose modification was anemia. All subjects requiring RBV dose modification achieved SVR12.

Two subjects experienced a PCS hematology value (low lymphocytes). No subject experienced a Grade 3 or 4 hemoglobin value.

Three subjects had Grade 3 (≥5 × ULN) alanine aminotransferase (ALT) values, none were associated with concomitant elevated total bilirubin levels, study drug treatment was continued without interruption, and all 3 subjects had normalization of their ALT levels by the last study visit. One subject experienced Grade 3 total bilirubin elevations, without an associated AE. No cases of drug-induced liver injury were identified.

**Conclusions:**
- A high SVR12 rate (98.0%) was observed in subjects with GT3 infection who received OBV/PTV/r + SOF ± RBV for 12 weeks.
- A high SVR12 rate (90.0%) was observed in subjects with GT2 infection who received OBV/PTV/r + SOF + RBV for 8 weeks. Shortening the treatment duration to 6 weeks resulted in a low SVR12 rate (44.4%).
- Subjects with compensated cirrhosis had higher PTV exposures than subjects without cirrhosis, while the exposures for OBV, ritonavir, RBV, SOF, and GS-331007 were generally comparable between subjects with compensated cirrhosis and without cirrhosis.
- OBV/PTV/r + SOF ± RBV demonstrated a favorable safety profile when administered for 12 weeks in subjects with GT3 infection with compensated cirrhosis or without cirrhosis or for 6 or 8 weeks in subjects with GT2 infection without cirrhosis.