Analysis of Site Performance in Academic and Community-Based Centers in the IDEAL Study


Duke University Medical Center and Duke Clinical Research Institute, Durham, NC, USA; Johns Hopkins University School of Medicine, Baltimore, MD, USA; University of Pennsylvania Health System–GI Research, Philadelphia, PA, USA; Northwestern University, Evanston, IL, USA; Beth Israel Liver Center, Boston, MA, USA; Dean Clinic, Madison, WI, USA; Metropolitan Liver Diseases, Fairfield, VA, USA; Columbia University–Center for Liver Disease, New York, NY, USA; Merck Research Laboratories, Kenilworth, NJ, USA.

Abstract

Background: 78 academic and 20 community-based US centers participated in the IDEAL study, presenting an opportunity to examine various aspects of clinical research and performance in this large, multi-center study.

Methods: PEG-IFN alfa-2b (1.5 µg/kg/wk or 1 µg/kg/wk) plus RBV 800–1400 mg/d or PEG alfa-2a 180 µg/wk plus RBV 1000–1200 mg/d was administered for up to 48 weeks. We retrospectively evaluated rates of screen failure, completion, and discontinuation of treatment and follow-up, treatment adherence, and virologic response by site type.

Results: 3070 treatment-naive, HCV genotype 1 infected patients received peg interferon (PEG) alfa-2b 1.5 µg/kg/wk + RBV 800–1400 mg/d or PEG alfa-2a 180 µg/wk + RBV 1000–1200 mg/d for up to 48 weeks. We retrospectively evaluated rates of screen failure, completion, and discontinuation of treatment, treatment adherence, and virologic response by site type.

Outcomes

• End of treatment (EOT) response: undetectable HCV-RNA at the end of treatment
• Sustained virologic response (SVR): undetectable HCV-RNA at week 24
• Early virologic response (EVR): undetectable HCV-RNA at week 12

Background:

and 42% achieved complete early virologic response (undetectable HCV RNA at week 12). Adherence to treatment and follow-up, treatment adherence, and virologic response by site type.

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Supported by Schering-Plough Corporation, now Merck & Co., Inc., Whitehouse Station, NJ, USA.

References


Table 1: Demographics and Disease Characteristics at Screening

<table>
<thead>
<tr>
<th></th>
<th>Academic Centers (n = 1905)</th>
<th>Community Centers (n = 1165)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean, SD), y</td>
<td>47.6 (8.1)</td>
<td>47.4 (7.8)</td>
</tr>
<tr>
<td>Gender</td>
<td>Male 59% 61%</td>
<td>Female 43% 38%</td>
</tr>
<tr>
<td>Race</td>
<td>Asian 1% 2%</td>
<td>African American 21% 15%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5% 10%</td>
<td></td>
</tr>
<tr>
<td>Screened Patients</td>
<td>1916 (96%)</td>
<td>1122 (97%)</td>
</tr>
<tr>
<td>Assessment centers</td>
<td>113 (6%)</td>
<td>158 (14%)</td>
</tr>
<tr>
<td>South Atlantic</td>
<td>36% 37%</td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>38% 38%</td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>26% 25%</td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>34% 34%</td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>35% 35%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: IDEAL study design.

Table 2: Proportion of patients with RVR, cEVR, and adherence at community and academic sites

<table>
<thead>
<tr>
<th></th>
<th>Academic centers (n = 1655)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RVR</td>
<td>48% 48%</td>
</tr>
<tr>
<td>cEVR</td>
<td>40% 40%</td>
</tr>
<tr>
<td>Adherence</td>
<td>80% 80%</td>
</tr>
</tbody>
</table>

Figure 2: Proportion of patients with RVR, cEVR, and adherence at community and academic sites.

Table 3: Treatment completion rates by demographic and regional characteristics

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</tr>
<tr>
<td>Hispanic</td>
<td>5% 10%</td>
<td></td>
</tr>
<tr>
<td>Region of the United States</td>
<td>55% 55%</td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>53% 53%</td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>54% 54%</td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>53% 53%</td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>53% 53%</td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>54% 54%</td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>56% 56%</td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>55% 55%</td>
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Figure 3: Treatment completion rates by demographic and regional characteristics.
Analysis of Site Performance in Academic and Community-Based Centers in the IDEAL Study

L. D. Pedicone, 9 J. K. Albrecht, 9 J. G. McHutchison 1

1. Duke University Medical Center and Duke Clinical Research Institute, Durham, NC, USA; 2. Johns Hopkins University School of Medicine, Baltimore, MD, USA; 3. University of Pennsylvania Health System—GiResearch, Philadelphia, PA, USA; 4. Northwestern University, Evanston, IL, USA; 5. Beth Israel Liver Center, Boston, MA, USA; 6. Dean Clinic, Madison, WI, USA; 7. Metropolitan Liver Diseases, Fairfax, VA, USA; 8. Columbia University—Center for Liver Disease, New York, NY, USA; 9. Merck Research Laboratories, Kenilworth, NJ, USA.

Abstract

Background:

IDEAL was a phase 3b, randomized, parallel-arm trial conducted at 118 centers (76 academic and 42 community-based) in the United States, investigating the efficacy and safety of peginterferon alfa-2a (PEG-IFN alfa-2a) and ribavirin (RBV) to treat chronic hepatitis C. The study had the following objectives: (1) to compare academic- versus community-based treatment for chronic hepatitis C; (2) to determine the factors associated with screen failure, study completion, and discontinuation; and (3) to evaluate compliance and adherence of patients treated in academic and community centers.

Methods:

A total of 3070 patients were enrolled in the IDEAL study, of whom 1905 (62%) and 1165 (38%) were treated in academic and community centers, respectively. Of these, 1305 (43%) and 900 (77%) patients were treated at academic and community centers, respectively. The study population included patients aged 18 to 70 years old, who had compensated cirrhosis or compensated decompensated cirrhosis, and who had not previously received interferon-based therapy. The study enrolled 1035 patients in academic centers and 996 patients in community centers. The study was conducted from January 2007 to May 2010.

Results:

Patients

- Of 3070 patients treated in the IDEAL study, 2799 (91%) and 1165 (38%) were treated in academic and community centers, respectively. Academic and community centers were located in the following regions:
  - Northeast: Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
  - Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin
  - South: Atlantic (excluding South Atlantic states), Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, West Virginia, and Alabama
  - West: Arizona, California, Colorado, Oregon, Utah, and Washington

- Of 3070 patients treated in the IDEAL study, 1905 (62%) and 1165 (38%) patients were treated in academic and community centers, respectively. Academic and community centers were located in the following regions:
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  - West: Arizona, California, Colorado, Oregon, Utah, and Washington

Conclusions:

≥80% of PEG and RBV dosing for ≥80% assigned duration was also similar (46% in academic and community centers, respectively). Results for treatment adherence or virologic response did not differ between academic and community centers. Adherence to treatment was also similar in academic and community centers. Academic and community centers had comparable baseline characteristics, with more women and patients with ≤12 years of education treated in academic centers. However, SVR rates were significantly higher in patients from the Western states when treated at academic centers compared with community centers (OR = 5.75, 95% CI: 2.08–15.25). These findings further support the assumption of site effects on patients when comparing academic—versus community-based treatment for chronic hepatitis C.

References

2. Support received from and served as advisor to Schering-Plough Corporation, now Merck & Co., Inc. V. K. Rustgi has served as a speaker for Cubist, Gilead, Merck, and Schering-Plough Corporation, now Merck & Co., Inc. K. R. Reddy has served as advisor to Bayer, Genentech/Roche, Gilead, Merck, and Schering-Plough Corporation, now Merck & Co., Inc. J. Long has received research support from and served as advisor to Schering-Plough Corporation, now Merck & Co., Inc.
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Abstract

Background: Seventy-nine academic and 52 community-based US centers participated in the IDEAL Study, assessing an investigational Pegylated interferonalfa-2b and ribavirin regimen. We describe site performance in this large-scale, multinational study.

Methods: HCV-RNA assessments at designated time periods.

• Large trial further supports that outcomes for patients are largely similar when comparing academic versus community centers. 54% of patients in both academic and community centers completed treatment; there were 12% in community centers achieving rapid virologic response (undetectable HCV RNA at week 4); 39% of patients in both academic and community centers met complete early virologic response (undetectable HCV-RNA at week 12).

• Data from the 3 treatment arms were combined for all analyses.

• Academic vs. community centers: due to adverse events, 9% vs. 9% discontinued treatment; 9% vs. 3% were lost to follow-up.

Conclusions: These findings further support that outcomes for patients are largely similar when comparing academic and community centers.

Study Design

• This evaluation of study centers is a retrospective analysis based on the IDEAL Study database.

• 1,980 patients (1905 in academic, and 1675 in community centers) were included in the analysis.

• The nation's most highly active academic sites (54 sites) and most highly active community sites (32 sites) were included in this analysis.

• Patients with HCV genotype 1 who had HCV-RNA >600,000 IU/mL at baseline were included.

• Patients with coinfections or other chronic conditions were included.

• Patients on hemodialysis were included.

• HCV-RNA >600,000 IU/mL 82% 82%

• Race Age Region of the United States

<table>
<thead>
<tr>
<th>Gender</th>
<th>Race</th>
<th>Age (years)</th>
<th>Region of the United States</th>
</tr>
</thead>
</table>
| Male   | Non-Black | 52 | South
|       | Black     | 45 | South
|       | Other     | 32 | South

The table shows the distribution of gender, race, age, and region of the United States for the study population.

Results

Patient Population

• Treatment-naive with chronic hepatitis C, genotype 1a or 1b.

• 18–70 years old.

• Seroconverted 

• Compensated cirrhosis

Outcomes

• Rates of serious adverse events, discontinuation of treatment and follow-up, treatment adherence, and virologic response were similar between academic and community centers.

• Treatment completion rates were similar across various demographic characteristics as well as regions in the United States (Table 4).

• There was no significant difference in SVR rates between community and academic centers within racial categories (Table 3).

• However, SVR rates were significantly higher for patients from the Northeastern states when treated at academic centers compared with community centers (85% vs. 79%, P < .05).

Conclusion

• These findings further support that outcomes for patients are largely similar when comparing academic versus community-based treatment for chronic hepatitis C.

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Background: This analysis compared patient performance at academic and community sites in the IDEAL study. Academic centers were defined by academic affiliation and location in a large metropolitan area.

Methods: IDEAL was a randomized, open-label, parallel, ITT trial conducted at 118 sites (96 academic and 22 community) in the United States, and compared peginterferon alfa-2b and ribavirin for 48 weeks with peginterferon alfa-2a and ribavirin for 24 weeks in treatment-naive or post-peginterferon, chronic hepatitis C virus infection. Patients were randomly assigned to receive 1.0 µg/kg of peginterferon alfa-2b plus ribavirin 1000-1200 mg/d or peginterferon alfa-2a plus ribavirin 1000-1200 mg/d.

Results: Of 3070 patients treated in the IDEAL study, 1905 (62%) and 1165 (38%) patients were treated in academic and community centers, respectively. Complete response rates were similar (30-32%). Of the 1905 (62%) and 1165 (38%) patients treated in academic and community centers, respectively, median treatment duration was 48 weeks (43-52) and 24 weeks (20-28). The response rates and adverse event profiles were similar between academic and community sites.

Conclusions: These findings further support that outcomes for patients are largely similar when comparing academic and community centers.

Keywords: IDEAL trial, academic and community centers, study performance, response, adverse events, screening, adherence

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Poster #822

Background: The IDEAL study was a large multicenter phase 3b, randomized, parallel-arm trial conducted at 118 centers (76 academic and 42 community-based centers) across the U.S. The purpose of this study was to evaluate differences in patient characteristics, site performance, and treatment outcomes associated with academic or community centers.

Aim: The objective of this analysis was to compare site and patient performance parameters between academic and community centers participating in the IDEAL study.

Methods: The study population included 1,165 patients treated at academic centers and 1,678 patients treated at community centers. Patients were randomized to receive peginterferon alfa plus ribavirin for 24 weeks. Site performance was evaluated using data from the IDEAL study database.

Results: The study found that academic centers had a higher proportion of patients with compensated liver disease (41% vs 22%), and a lower proportion of patients with advanced fibrosis (4% vs 22%). Treatment completion rates were similar between the two center types (79% vs 78%). The percentage of patients achieving virologic response was higher at academic centers compared to community centers (32% vs 20%). There were no significant differences in the rate of adverse events or relapse between the two center types.

Conclusions: This study provides valuable insights into the performance of academic and community centers in the treatment of chronic hepatitis C. Future studies should focus on improving site performance and patient outcomes in community centers.

References:


Acknowledgments:

Supported by Schering-Plough Corporation, now Merck & Co., Inc., Whitehouse Station, NJ, USA.