CVD Events in Janssen-sponsored Clinical Trials

- To evaluate the CVD risk associated with DRV use and/or assess baseline demographic and clinical characteristics of DRV users
- DRV is approved as twice-daily and once-daily dosing regimens:
  - Cardiovascular disease (CVD) is a leading cause of death in adults worldwide, and people living with human immunodeficiency virus (HIV) are at increased risk of CVD.

Methods

Introduction

Demographic and Clinical Characteristics of DRV Users in US Administrative Claims Databases

- Male/female gender: 50% male, 49% female
- Age: Median age 40 years (range 18-82 years)
- BMI, body mass index: Median BMI 26 kg/m² (range 18-35 kg/m²)
- Intake of lipid-lowering drugs: 12% (1%) vs 240 (8%) vs 289 (6%)
- Diabetes: 2% (2%) vs 7% (7%) vs 6% (6%)

Table 1. Baseline Characteristics of Patients Enrolled in Clinical Trials

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>DRV/r 800/100 mg</th>
<th>DRV/r 600/100 mg</th>
<th>Any DRV/r dose*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Exposure, person-years</td>
<td>695</td>
<td>1,764</td>
<td>1,248</td>
</tr>
<tr>
<td>Incidence Rate (95% CI), person-year⁻¹</td>
<td>3.59 (2.10-5.50)</td>
<td>5.03 (3.10-8.12)</td>
<td>4.00 (2.40-6.50)</td>
</tr>
</tbody>
</table>

Table 2. Summary of CVD Events With DRV/r Use (Pooled Data) From 19 Clinical Trials by Interval of Exposure

- Total CVD events: 0, 1, 0, and 0 for DRV/r 800/100 mg, DRV/r 600/100 mg, and any DRV/r dose, respectively.
- Median treatment duration: 40 (18-82) years.

Table 3. Clinical Conditions Identified by MedDRA Preferred Terms From Janssen-sponsored Clinical Trials

- Hypertension: 21% (45% vs 31%), Hypertension: 35% (22% vs 19%)
- Diabetes: 2% (7% vs 6%)
- Metabolic disorder: 26% (57% vs 44%)
- Acute systolic heart failure: 41 (0.008) vs 8 (0.001)
- Chronic systolic heart failure: 49 (0.010) vs 9 (0.001)

Table 4. Baseline Characteristics of DRV and ATV Users and the General HIV-1–infected Population in the US

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>DRV Users</th>
<th>ATV Users</th>
<th>General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male/Male</td>
<td>44,498</td>
<td>6,824</td>
<td>166,604</td>
</tr>
<tr>
<td>Female/Female</td>
<td>36,024</td>
<td>1,536</td>
<td>57,110</td>
</tr>
<tr>
<td>Metabolic disorder</td>
<td>26 (57%)</td>
<td>51 (27%)</td>
<td>76 (76%)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>21 (45%)</td>
<td>31 (22%)</td>
<td>76 (76%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2 (7%)</td>
<td>6 (22%)</td>
<td>27 (27%)</td>
</tr>
</tbody>
</table>

Table 5. Incidence Rate (95% CI), person-year⁻¹ of CVD Conditions

- Hypertension: 3.59 (2.10-5.50) vs 5.03 (3.10-8.12) vs 4.00 (2.40-6.50)
- Diabetes: 0.008 (0.001-0.104) vs 0.001 (0.001-0.114) vs 0.103 (0.003-0.566)
- Acute systolic heart failure: 0.008 (0.001-0.104) vs 0.001 (0.001-0.114) vs 0.011 (0.003-0.566)
- Chronic systolic heart failure: 0.010 (0.001-0.114) vs 0.001 (0.001-0.114) vs 0.011 (0.003-0.566)

Table 6. Demographic and Clinical Characteristics of DRV Users in US Administrative Claims Databases

- Gender: Male: 50%, Female: 49%
- Age: Median 40 years (range 18-82 years)
- BMI: Median 26 kg/m² (range 18-35 kg/m²)
- Intake of lipid-lowering drugs: 12% (1%) vs 240 (8%) vs 289 (6%)
- Diabetes: 2% (2%) vs 7% (7%) vs 6% (6%)

References


Limitations

- Analysis of pooled data from 19 Janssen-sponsored clinical trials did not indicate an increased risk of CVD events with DRV when compared with ATV.
- The CVD event incidence rate was lower for the triple combination with DRV/r compared with the single-agent regimen with ritonavir-boosted DRV.
- DRV/r dosing regimens may induce differences in the patient population, as this dosing regimen was approved by Food and Drug Administration (FDA) for patients with advanced HIV-1 disease patients who may be at high risk of developing a CVD event.

Conclusions

- The trend of CVD postmarketing came over time showed a decline in the relative reporting rate over time with evidence from 2006 to 2010, when only twice-daily DRV/r/ATV was approved.
- This data are important to the understanding of the potential CV risk event and the safety and efficacy of the regimens for patients with advanced HIV-1 infection.

Acknowledgments

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