Class-Sparing Regimens for Initial Treatment of HIV

ACTG 5142
EFV + NRTIs versus LPV/r + NRTIs versus LPV/r + EFV

ACTG 5142: Study Design

**Study Design: ACTG 5124**

- **Background**: Randomized, phase 3 trial comparing the efficacy, safety, and tolerability of 3 different class-sparing ARV regimens in antiretroviral naïve adults and adolescents with HIV infection.

- **Inclusion Criteria (n = 753)**
  - Age ≥13
  - Antiretroviral naïve
  - HIV RNA ≥2,000 copies/mL
  - No CD4 restrictions

- **Treatment Arms**
  - EFV 600 mg QD + 2 NRTIs
  - LPV/r 400/100 mg BID + 2 NRTIs
  - LPV/r 533/133 mg BID + EFV 600 mg QD

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**PI-Sparing Group**
Efavirenz + 2 NRTIs  
(n = 250)

**NNRTI-Sparing Group**
Lopinavir-ritonavir + 2 NRTIs  
(n = 253)

**NRTI-sparing Group**
Lopinavir-ritonavir + Efavirenz  
(n = 250)

EFV + NRTIs versus LPV/r + NRTIs versus LPV/r + EFV

ACTG 5142: Results

Week 96: Virologic Response

<table>
<thead>
<tr>
<th>HIV RNA Threshold</th>
<th>EFV + 2 NRTIs</th>
<th>LPV-RTV + 2 NRTIs</th>
<th>EFV + LPV-RTV</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;200 copies/mL</td>
<td>93</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>&lt;50 copies/mL</td>
<td>89</td>
<td>77</td>
<td>83</td>
</tr>
</tbody>
</table>

EFV + NRTIs versus LPV/r + NRTIs versus LPV/r + EFV

ACTG 5142: Results

Virologic or Regimen Failure

Virologic Failure

- EFV + 2 NRTIs: 24%
- LPV-RTV + 2 NRTIs: 37%
- EFV + LPV-RTV: 29%

Regimen Failure

- EFV + 2 NRTIs: 38%
- LPV-RTV + 2 NRTIs: 50%
- EFV + LPV-RTV: 43%

Virologic failure = lack of suppression of plasma HIV-1 RNA by 1 log10 or rebound before week 32 or a lack of suppression to <200 copies/mL or rebound after week 32.

Regimen failure = first of either virologic failure or toxicity-related discontinuation.

### EFV + NRTIs versus LPV/r + NRTIs versus LPV/r + EFV

#### ACTG 5142: Results

#### Summary of Resistance Mutations at Time of Virologic Failure*

<table>
<thead>
<tr>
<th>Variable</th>
<th>EFV + 2 NRTIs (%)</th>
<th>LPV/r + 2NRTIs (%)</th>
<th>LPV/r + EFV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virologic failure events</td>
<td>24</td>
<td>37</td>
<td>29</td>
</tr>
<tr>
<td>Any mutation</td>
<td>48</td>
<td>21</td>
<td>70</td>
</tr>
<tr>
<td>NRTI-associated mutation</td>
<td>30</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>M184V</td>
<td>17</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>K65R</td>
<td>7</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>NNRTI-associated mutation</td>
<td>43</td>
<td>3</td>
<td>66</td>
</tr>
<tr>
<td>K103N</td>
<td>24</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Any protease mutation</td>
<td>85</td>
<td>78</td>
<td>80</td>
</tr>
<tr>
<td>Major protease mutation</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Mutation associated with 2 classes</td>
<td>26</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

*Percentages of patients with mutations were calculated for those who had an available genotype at the time of virologic failure.

Conclusions: “Virologic failure was less likely in the efavirenz group than in the lopinavir-ritonavir group. The virologic efficacy of the NRTI-sparing regimen was similar to that of the efavirenz regimen but was more likely to be associated with drug resistance.”

Acknowledgment

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