Short-Term Malaria Reduction by Single-Dose Azithromycin during Mass Drug Administration for Trachoma, Tanzania

Technical Appendix

Alternative analysis of baseline and month 1 comparisons for short-term malaria reduction by single-dose azithromycin during mass drug administration for trachoma, Tanzania, January 12–July 21, 2009

Technical Appendix Table 1. Village-level comparisons of baseline with month 1 for AZT MDA, Tanzania, January 12–July 21, 2009*

<table>
<thead>
<tr>
<th>Village</th>
<th>AZT MDA</th>
<th>Time</th>
<th>18S ribosomal gene of <em>Plasmodium falciparum</em></th>
<th>No. patients negative</th>
<th>No. patients positive</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Baseline</td>
<td>225</td>
<td>7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Month 1</td>
<td>183</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>Baseline</td>
<td>230</td>
<td>5</td>
<td>0.0489</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Month 1</td>
<td>193</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
<td>Baseline</td>
<td>203</td>
<td>23</td>
<td>0.0002</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Month 1</td>
<td>162</td>
<td>2</td>
<td>0.0005</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>Baseline</td>
<td>143</td>
<td>18</td>
<td>0.0008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Month 1</td>
<td>111</td>
<td>1</td>
<td>0.0005</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
<td>Baseline</td>
<td>234</td>
<td>0</td>
<td>0.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Month 1</td>
<td>186</td>
<td>6</td>
<td>0.0001</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>No</td>
<td>Baseline</td>
<td>190</td>
<td>40</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Month 1</td>
<td>155</td>
<td>4</td>
<td>0.0001</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>No</td>
<td>Baseline</td>
<td>199</td>
<td>11</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Month 1</td>
<td>148</td>
<td>7</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>No</td>
<td>Baseline</td>
<td>217</td>
<td>3</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Month 1</td>
<td>155</td>
<td>19</td>
<td>0.001</td>
<td></td>
</tr>
</tbody>
</table>

*AZT, azithromycin; MDA, mass drug administration.

Technical Appendix Table 2. Effect of AZT MDA by age, Tanzania, January 12–July 21, 2009*

<table>
<thead>
<tr>
<th>Time</th>
<th>Treatment</th>
<th>18S ribosomal gene of <em>Plasmodium falciparum</em></th>
<th>No. patients negative</th>
<th>No. patients positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence in persons 1–10 y of age</td>
<td>Baseline</td>
<td>No AZT</td>
<td>357</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZT</td>
<td>346</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Month 1</td>
<td>No AZT</td>
<td>319</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZT</td>
<td>355</td>
<td>5†</td>
</tr>
<tr>
<td>Prevalence in persons &gt;10 y of age</td>
<td>Baseline</td>
<td>No AZT</td>
<td>403</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZT</td>
<td>383</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Month 1</td>
<td>No AZT</td>
<td>356</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZT</td>
<td>415</td>
<td>9†</td>
</tr>
</tbody>
</table>

*AZT, azithromycin; MDA, mass drug administration.
†Significantly different (p = 0.0338) from control in univariate model.
‡Significantly different (p = 0.0142) from control in univariate and multivariate models when controlling for altitude, rainfall, and village-level random effect.
Technical Appendix Table 3. Effect of AZT treatment on an individual level for untreated persons who lived in in a village that received AZT and who then moved to a village that did not receive AZT, Tanzania, January 12–July 21, 2009*

<table>
<thead>
<tr>
<th>Time</th>
<th>Individual treatment</th>
<th>18S ribosomal gene of <em>Plasmodium falciparum</em></th>
<th>OR (95% CI) for patients given AL</th>
<th>OR (95% CI) for patients not given AL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. patients</td>
<td>No. patients</td>
<td>No. patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>negative</td>
<td>positive</td>
<td>given</td>
</tr>
<tr>
<td>Baseline</td>
<td>No AZT</td>
<td>909</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>732</td>
<td>49</td>
<td>0</td>
</tr>
<tr>
<td>Month 1</td>
<td>No AZT</td>
<td>811</td>
<td>38</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>768</td>
<td>13</td>
<td>36</td>
</tr>
<tr>
<td>Month 3</td>
<td>No AZT</td>
<td>704</td>
<td>20</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>649</td>
<td>12</td>
<td>73</td>
</tr>
<tr>
<td>Month 4</td>
<td>No AZT</td>
<td>571</td>
<td>10</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>584</td>
<td>3</td>
<td>92</td>
</tr>
<tr>
<td>Month 6</td>
<td>No AZT</td>
<td>640</td>
<td>4</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>570</td>
<td>4</td>
<td>134</td>
</tr>
</tbody>
</table>

*AL, artemether/lumefantrine; OR, odds ratio; AZT, azithromycin.
†p = 0.0015.

Technical Appendix Table 4. Effect of AZT treatment for patients who did not receive AZT (herd effect), Tanzania, January 12–July 21, 2009*

<table>
<thead>
<tr>
<th>Time</th>
<th>Village treatment</th>
<th>18S ribosomal gene of <em>Plasmodium falciparum</em></th>
<th>OR (95% CI) for patients given AL</th>
<th>OR (95% CI) for patients not given AL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>No. patients</td>
<td>No. patients</td>
<td>No. patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>negative</td>
<td>positive</td>
<td>given</td>
</tr>
<tr>
<td>Baseline</td>
<td>No AZT</td>
<td>840</td>
<td>54</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>69</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Month 1</td>
<td>No AZT</td>
<td>742</td>
<td>37</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>69</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Month 3</td>
<td>No AZT</td>
<td>653</td>
<td>17</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>51</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Month 4</td>
<td>No AZT</td>
<td>523</td>
<td>8</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>48</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Month 6</td>
<td>No AZT</td>
<td>589</td>
<td>4</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>51</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

*AL, artemether/lumefantrine; OR, odds ratio; AZT, azithromycin.

Technical Appendix Table 5. Comparison of persons given azithromycin with untreated persons, by village level, Tanzania, January 12–July 21, 2009*

<table>
<thead>
<tr>
<th>Time</th>
<th>Village treatment</th>
<th>18S ribosomal gene of <em>Plasmodium falciparum</em></th>
<th>OR (95% CI) for patients given AL</th>
<th>OR (95% CI) for patients not given AL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. patients</td>
<td>No. patients</td>
<td>No. patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>negative</td>
<td>positive</td>
<td>given</td>
</tr>
<tr>
<td>Baseline</td>
<td>No AZT</td>
<td>840</td>
<td>54</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>801</td>
<td>53</td>
<td>0</td>
</tr>
<tr>
<td>Month 1</td>
<td>No AZT</td>
<td>742</td>
<td>37</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>837</td>
<td>14</td>
<td>38</td>
</tr>
<tr>
<td>Month 3</td>
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<td>653</td>
<td>17</td>
<td>86</td>
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<tr>
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<td>15</td>
<td>76</td>
</tr>
<tr>
<td>Month 4</td>
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<td>523</td>
<td>8</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
<td>632</td>
<td>5</td>
<td>96</td>
</tr>
<tr>
<td>Month 6</td>
<td>No AZT</td>
<td>589</td>
<td>4</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>AZT</td>
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<td>4</td>
<td>140</td>
</tr>
</tbody>
</table>

*AL, artemether/lumefantrine; OR, odds ratio; AZT, azithromycin.
†p = 0.0003.