**Table 15g. Antiretroviral Therapy-Associated Adverse Effects and Management Recommendations—Lactic Acidosis**

(Last updated April 16, 2019; last reviewed April 16, 2019)

<table>
<thead>
<tr>
<th>Adverse Effects</th>
<th>Associated ARVs</th>
<th>Onset/Clinical Manifestations</th>
<th>Estimated Frequency</th>
<th>Risk Factors</th>
<th>Prevention/Monitoring</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic Acidosis</td>
<td>NRTIs; ZDV; Less likely with 3TC, FTC, ABC, TAF, and TDF</td>
<td>Onset: Generally, after years of exposure</td>
<td>Lactic acidosis is associated with use of ddi and d4T. Cases are rare now that these NRTIs are no longer recommended.</td>
<td>Adults: Female sex; High BMI; Chronic HCV infection</td>
<td>Lactate 2.1–5.0 mmol/L (Confirmed with a Second Test): Consider discontinuing all ARV drugs temporarily while conducting additional diagnostic workup.</td>
<td>Lactate 2.1–5.0 mmol/L (Confirmed with a Second Test): Consider discontinuing all ARV drugs temporarily while conducting additional diagnostic workup.</td>
</tr>
<tr>
<td>Other Drugs: See Risk Factors and Prevention/ Monitoring columns for information regarding the toxicity of propylene glycol when LPV/r oral solution is used in neonates.</td>
<td>Presentation: Lactic acidosis may be clinically asymptomatic.</td>
<td>3TC, FTC, ABC, TAF, and TDF are less likely to induce clinically significant mitochondrial dysfunction than ZDV.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Insidious Onset of a Combination of Signs and Symptoms: Generalized fatigue, weakness, and myalgias; Vague abdominal pain, weight loss, unexplained nausea, or vomiting</td>
<td>Dyspnea; Peripheral neuropathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note: Patients may present with acute multi-organ failure (e.g., fulminant hepatic failure, pancreatic failure, respiratory failure).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Key to Acronyms:** 3TC = lamivudine; ABC = abacavir; ARV = antiretroviral; BMI = body mass index; CD4 = CD4 T lymphocyte; d4T = stavudine; ddl; didanosine; FTC = emtricitabine; HCV = hepatitis C virus; IV = intravenous; LPV/r = lopinavir/ritonavir; NRTI = nucleoside reverse transcriptase inhibitor; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate; THAM = tris (hydroxymethyl) aminomethane; ZDV = zidovudine

*Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection*

Downloaded from https://aidsinfo.nih.gov/guidelines on 4/12/2020
References

General Reviews

Risk Factors

Monitoring and Management

Downloaded from https://aidsinfo.nih.gov/guidelines on 4/12/2020
