Guidelines for the use of antiretroviral agents in HIV infections in Taiwan

Infectious Diseases Society of the Republic of China; Taiwan AIDS Society; Medical Foundation in Memory of Dr. Deh-Lin Cheng; Foundation of Professor Wei-Chuan Hsieh for Infectious Diseases Research and Education; and Lee CY’s Research Foundation for Pediatric Infectious Diseases and Vaccine

With increasing understanding of the pathogenesis of human immunodeficiency virus (HIV) infection and the rapid development of new antiretroviral drugs, guidelines for antiretroviral therapy have been established in many developed countries such as the United States and the Euro groups, which are revised yearly.

Antiretroviral drugs are available in Taiwan since 1996, and are provided free of charge to HIV-infected patients by the government and the Bureau of National Health Insurance. The highly active antiretroviral therapy (HAART) was initially provided based on foreign guidelines; however, differences in medical resources, patient population, and preferences of physicians have led to a need in reaching a consensus among experts in the field. Since 1998, 7 conferences attended by HIV experts and physicians caring for HIV-infected patients were held to discuss issues of antiretroviral therapy, and a questionnaire was sent to all physicians to investigate their preferences and practices in providing antiretroviral therapy in Taiwan. With the support of the Taiwan Center for Disease Control and Prevention (CDC) and the Bureau of National Health Insurance, a consensus conference to establish guidelines for the use of antiretroviral therapy in Taiwan was held on March 11, 2001, following a symposium on HIV/acquired immunodeficiency syndrome (AIDS). The conference was held jointly by the Infectious Diseases Society of the Republic of China (IDSROC), the Taiwan AIDS Society, the Medical Foundation in Memory of Dr. Deh-Lin Cheng, Foundation of Professor Wei-Chuan Hsieh for Infectious Diseases Research and Education, and Lee CY’s Research Foundation for Pediatric Infectious Diseases and Vaccine.

To ensure that the establishment of the guidelines conforms to academic principles and addresses practical facets, we abided by 4 principles:
1. Establishment of guidelines from the viewpoint of primary care physicians.
2. Antiretroviral agents recommended in the guidelines were agents already available on market in Taiwan.
3. Guidelines were based on the experiences of expert physicians who have had extensive experience in caring for HIV-infected patients.
4. Consideration was given to the medical resources available from the Bureau of National Health Insurance.

Treatment guidelines were circulated among the boards of IDSROC and the Taiwan AIDS Society; a copy was sent to primary care physicians and is published as an appendix in the Journal of Microbiology, Immunology and Infection to serve as a reference to all practicing physicians in Taiwan. This guideline will be updated and revised yearly.

Guidelines for the use of antiretroviral agents in HIV-infected patients

A. General consideration

1. When to start
   (1) Acute HIV infection: treatment should be offered.
   (2) Symptomatic: treatment should be offered.
   (3) Asymptomatic:
       Adults:
       Treatment should be offered when CD4+ T cells <350 /mm³, or HIV RNA >10 000 copies/mL (bDNA), or HIV RNA >20 000 copies/mL (RT-PCR).
       Pediatrics:
       Treatment should be offered to all newly diagnosed infected children, or if universal early treatment not feasible, treatment should be offered if there is evidence of immune suppression as the followings:
2. When to change
   (1) Virological failure
      i. A reduction in plasma HIV RNA of less than 0.5 to 0.75 log_{10} 4 weeks following initiation of therapy, or less than 1 log_{10} by week 8.
      ii. Failure to suppress plasma HIV RNA to undetectable levels within 4 to 6 months after initiating therapy.
      iii. Repeated detection of virus in plasma after initial suppression to undetectable levels, suggesting the development of resistance.
      iv. Any reproducible significant increase, defined as 3-fold or greater, from the nadir of plasma HIV RNA not attributable to intercurrent infection, vaccination, or test methodology.
   (2) Toxicity
   (3) Intolerance

B. Recommended regimens

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Drug of choice</th>
<th>Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column A</td>
<td>Column B</td>
<td>Column A</td>
</tr>
<tr>
<td>1. Acute HIV infection</td>
<td>Indinavir</td>
<td>Abacavir</td>
</tr>
<tr>
<td></td>
<td>Saquinavir-SGC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ritonavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nelfinavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Efavirenz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nevirapine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saquinavir/Ritonavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indinavir/Ritonavir</td>
<td></td>
</tr>
<tr>
<td>2. Asymptomatic HIV infection</td>
<td>Indinavir</td>
<td>Abacavir</td>
</tr>
<tr>
<td></td>
<td>Saquinavir-SGC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ritonavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nelfinavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Efavirenz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nevirapine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saquinavir/Ritonavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indinavir/Ritonavir</td>
<td></td>
</tr>
<tr>
<td>3. Advanced HIV infection</td>
<td>Indinavir</td>
<td>Abacavir</td>
</tr>
<tr>
<td></td>
<td>Saquinavir-SGC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ritonavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nelfinavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Efavirenz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nevirapine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saquinavir/Ritonavir</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indinavir/Ritonavir</td>
<td></td>
</tr>
<tr>
<td>4. HIV-infected pediatric patients^{ab}</td>
<td>Ritonavir^{c}</td>
<td>Abacavir^{c}</td>
</tr>
<tr>
<td></td>
<td>Nelfinavir^{d}</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. HIV infection in pregnant women</td>
<td>Nevirapine</td>
<td>Nelfinavir</td>
</tr>
<tr>
<td></td>
<td>Saquinavir-SGC</td>
<td>Indinavir</td>
</tr>
<tr>
<td></td>
<td>Ritonavir</td>
<td></td>
</tr>
<tr>
<td>6. Prophylaxis after occupational exposure^{f}</td>
<td>Indinavir</td>
<td>Nelfinavir</td>
</tr>
<tr>
<td></td>
<td>Saquinavir-SGC</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: 3TC = lamivudine; AZT = zidovudine; d4T = stavudine; ddC = zalcitabine; ddl = didanosine; Saquinavir-SGC = saquinavir-soft gel capsule

^{a} Antiretroviral drug regimens are comprised of 1 choice each from columns A and B.

^{b} All regimens used for adults are also recommended for pediatrics.

^{c} Oral solution formulation available.

^{d} Powder formulation for suspension available.

^{e} Syrup formulation available.

^{f} The previous treatment regimens of source patient should be taken into consideration; the duration of treatment is 4 weeks; the risk group should be considered, if contact with body fluid except blood, dual therapy is recommended.
Consensus Conference Participants (in alphabetical order):