- Heymann DL, Aylward RB. The polio eradication endgame. As polio eradication nears realization, such real-world vaccination strategies could hold lessons for the future in AIDS vaccine development. IAVI Rep. 2006;10:13-7.
- Kreeftenberg H, van der Velden T, Kersten G, van der Heuvel N, de Bruijn M. Technology transfer of Sabin-IPV to new developing country markets. Biologicals. 2006;34:155-8.
- Agol VI. Vaccine-derived polioviruses. Biologicals 2006; 34: 103-8.
- Martin J. Vaccine-derived poliovirus from long term excretors and the end game of polio eradication. Biologicals. 2006;34: 117-22.
- Performance of acute flaccid paralysis (AFP) surveillance and incidence of poliomyelitis 2004-2005. (Data received in WHO headquarters as of 7 March 2006). Wkly Epidemiol Rec. 2006;81: 114-5.
- Aylward RB, Maher C. Interrupting poliovirus transmission new solutions to an old problem. Biologicals. 2006;34:133-9.4. Heymann DL, Aylward RB. The polio eradication endgame. As polio eradication nears realization, such real-world vaccination strategies could hold lessons for the future in AIDS vaccine development. IAVI Rep. 2006;10:13-7.

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## Effectiveness of dual and triple anti-HIV therapy

Dear Editor,

I would like to make some comments about the original article written by Romanelli et al.  $^{1}$  and about the editorial written by Oleske.  $^{2}$ 

Initially, I want to highlight the importance of the article by Romanelli, which provides health professionals with important information about when to start anti-HIV therapy in children. This and other studies have advocated a change in international guidelines for the treatment of HIV infection in children in the last few years. These guidelines included the initial indication of formal dual therapy, then the restriction on the use of dual therapy (mild cases), and finally, the formal indication of triple therapy.

In regard to the editorial written by Oleske,<sup>2</sup> some explanations and comments are necessary. At the end of the first paragraph, Oleske affirms that the pathogenesis of HIV infection and the general principles of therapy are the same for adults, adolescents, children and infants infected with

HIV. However, it has been well established that the dynamics of viral replication and the immunopathogenesis of HIV infection in adults and children have remarkable differences, and some of these differences still have to be clarified. <sup>3,4</sup> And it is the difference in the dynamics of viral replication and pathogenesis of HIV infection in children that determines the different guidelines for antiretroviral therapy in children and adults, especially regarding parameters such as implementation of treatment, treatment success and failure, and peculiarities about immune reconstitution. <sup>5,6</sup>

In the second paragraph, Oleske affirms that the pharmacokinetics of the multiple drugs used in the treatment of HIV infection also accounts for more rapid disease progression in pediatric patients. It is common knowledge that when one refers to progression of HIV infection, one usually describes the natural history of the disease; to be natural, it requires exclusion of antiretroviral therapy. Therefore, this type of inference or casual relationship is not appropriate. I think the article should mention the paucity of pharmacokinetic studies in children, mainly in the first months of life. The available studies usually have a too small sample size and include different age groups.<sup>7,8</sup>

Finally, I would like to remind pediatricians and infectologists who attend to HIV-infected children that the management of pediatric HIV infection in Brazil should follow the Guidelines for Clinical Treatment of HIV Infection in Children, elaborated by the Brazilian National STD/Aids Program of the Brazilian Ministry of Health. These guidelines are updated regularly, and the 2006 version is already available at www.aids.gov.br.

## References

- Romanelli RM, Pinto JA, Melo LJ, Vasconcelos MA, Pereira Rde M. Effectiveness of dual and triple antiretroviral therapy in the treatment of HIV-infected children. J Pediatr (Rio J). 2006;82: 260-5.
- Oleske JM. When should we treat children with HIV? J Pediatr (Rio J). 2006;82:243-5.
- Tiemessen CT, Kuhn L. Immune pathogenesis of pediatric HIV-1 infection. Curr HIV/AIDS Rep. 2006;3:13-9.
- Chakraborty R. HIV-1 infection in children: a clinical and immunologic overview. Curr HIV Res. 2005;3:31-41.
- Resino S, Seoane E, Gutierrez MD, Leon JA, Munoz-Fernandez MA. CD4(+) T-cell immunodeficiency is more dependent on immune activation than viral load in HIV-infected children on highly active antiretroviral therapy. J Acquir Immune Defic Syndr. 2006;42:269-76.
- Zanchetta M, Walker S, Burighel N, Bellanova D, Rampon O, Giaquinto C, et al. Long-term decay of the HIV-1 reservoir in HIV-1-infected children treated with highly active antiretroviral therapy. J Infect Dis. 2006;193:1718-27. Epub 2006 May 10.
- Fraaij PL, van Kampen JJ, Burger DM, de Groot R. Pharmacokinetics of antiretroviral therapy in HIV-1-infected children. Clin Pharmacokinet. 2005;44:935-56.
- King JR, Kimberlin DW, Aldrovandi GM, Acosta EP. Antiretroviral pharmacokinetics in the paediatric population: a review. Clin Pharmacokinet. 2002;4:1115-33.

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