

HIV Infection in Children

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Perspective

Another World AIDS Day, which happens on December 1 every year, was just days away when this piece was being published. Not only is now a good moment to reflect on all of the successes in HIV treatment and management, particularly MTCT, but it's also a good time to think about the challenges ahead. Pediatricians, as champions of children, must be more outspoken in informing patients, families, and communities about the dangers of sexually transmitted illnesses and HIV infection, as well as the importance of testing as part of routine primary care. Rather than being the exception, this should be the rule. Until and unless this strategy is embraced, new infections will continue to be seen in young individuals, and even those who are aware of their status will be hesitant to seek treatment.

The origins of the virus, HIV immunopathogenesis, and paediatric infection, particularly mother-to-child transmission, are briefly discussed in this article (MTCT). Despite the availability of highly active antiretroviral medication, there are current concerns that have an impact on the care of HIV-infected children and adolescents (HAART). Finally, this article focuses on on-going prevention efforts by the Centres for Disease Regulation and Prevention (CDC) and other organisations in an effort to control and decrease the number of old and new HIV infections, mainly in resource-rich countries.

Although the number of HIV-infected infants in the United States has decreased to less than 100 per year, the number of babies born to HIV-positive moms appears to have increased. It is critical to continue implementing programmes to provide sustained access to care and treatment in order to maintain the progress made in reducing the number of newborns born with perinatally acquired HIV infection. Despite the fact that MTCT prevention has been a huge success, now is not the time to relax. Young people remain one of the most vulnerable populations to HIV infection, while their risk varies depending on community prevalence rates, sexual activities, and concomitant substance use.

Once infected with HIV, changes in the immune system's normal functioning are complicated. To help readers better comprehend the disease process and its repercussions, a simplified version is offered. As previously stated, substantial CD4 T-cell depletion in the GALT occurs shortly after HIV transmission in humans. Translocation of microbial products from the intestinal mucosa into the circulation has been linked to loss of mucosal integrity, contributing to HIV-induced systemic immunological activation and

dysregulation. Furthermore, HIV infection has a profoundly negative impact on peripheral lymphoid tissues, generating significant follicular and germinal-center hyperplasia in the early stages of infection and involution in the later stages. In untreated patients, these alterations begin soon after the initial infection and are linked to continued replication. Once infected with HIV, changes in the immune system's normal functioning are complicated. To help readers better comprehend the disease process and its repercussions, a simplified version is offered. As previously stated, substantial CD4 T-cell depletion in the GALT occurs shortly after HIV transmission in humans. In the 20- to 24-year-old age range, HIV is one of the top ten primary causes of death. Between 2005 and 2008, the expected number of HIV/AIDS cases among 15- to 19-year-olds, as well as 20- to 24-year-olds, increased. The incidence of new HIV diagnoses per 100,000 people rises with age, from 12.6 in the 15- to 19-year-old age group to 37.2 in the 20- to 24-year-old age group. The American Academy of Pediatrics' Committee on Pediatric AIDS recently issued a position statement outlining clinicians' responsibilities in encouraging HIV testing among adolescents.

Translocation of microbial products from the intestinal mucosa into the circulation has been linked to loss of mucosal integrity, contributing to HIV-induced systemic immunological activation and dysregulation. Furthermore, HIV infection has a severe negative impact on peripheral lymphoid tissues, generating substantial follicular and germinal-center hyperplasia in the early stages of infection and involution in the later stages. In untreated patients, these alterations occur shortly after infection and are linked to continued replication.

This is a time to reflect not just on all of the successes in HIV treatment and management, particularly MTCT, but also on the challenges that lie ahead. Pediatricians, as champions of children, must be more outspoken in informing patients, families, and communities about the dangers of sexually transmitted illnesses and HIV infection, as well as the importance of testing as part of routine primary care. Rather than being the exception, this ought to be the rule. Until and unless this strategy is embraced, new infections will continue to be seen in young individuals, and even those who are aware of their status will be hesitant to seek treatment.

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