Use of BCG vaccine in HIV-infected infants

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Additional data from studies in Argentina and South Africa confirm the significantly high risk of disseminated BCG (dBCG) disease in HIV-positive infants, with rates approaching 1%. Other studies have shown that infection with HIV severely impairs the BCG-specific T-cell responses during the first year of life. Thus, BCG may therefore provide little, if any, protection against tuberculosis in HIV-infected infants. Considering the significant risk of dBCG disease, these data strongly support the WHO recommendation of not giving BCG to children who are known to be infected with HIV. Additional data suggest that highly active antiretroviral therapy (HAART) may reduce the rate of dBCG disease and that this benefit may be greater than the increased frequency of the immune reconstitution inflammatory syndrome that is observed in BCG-vaccinated HIV-infected children receiving HAART.

The new data do not provide arguments for modifying the current policy recommended by WHO,[9] which has also been supported by recent statements from the International Union Against Tuberculosis and Lung Disease and the Childhood TB Subgroup of the WHO DOTS Expansion Working Group.[10] The operational difficulties in implementing the WHO recommendations were noted, in particular the delayed vaccination approach,[11] which might be possible to implement only in situations where: good TB and HIV surveillance systems for pregnant women and infants existed; where strategies for the prevention of mother-to-child transmission of HIV were operating optimally and were closely linked to well functioning EPI programmes with good follow-up of all infants; and in situations where HAART coverage for mothers and children is high.

Disseminated BCG diseases have mainly been reported from Argentina and South Africa, countries that use the Pasteur and Danish strains respectively. Countries with good HIV and tuberculosis reporting systems, such as Brazil and Thailand, have not reported dBCG cases to the extent that the other 2 countries have. These last 2 countries use less reactogenic BCG vaccines (i.e. Japanese and Moreau vaccines) and whether strain is important in the genesis of dBCG in HIV infected children merits further evaluation.