

Seroprevalence of Antibodies to Tetanus Toxoid and Diphtheria Toxoid in Perinatally Human Immunodeficiency Virus - Infected Children and Adolescents

Shahana A Choudhury*

*Meharry Medical College, USA

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ABSTRACT

Introduction: Although data presented in this study is a few years old, the author believes it is important to review in this era of the COVID-19 pandemic in order to underscore the importance of timely immunization of all children, particularly those who are HIV-infected. Even in the era of Highly Active Antiretroviral Therapy (HAART), HIV-infected individuals are at a higher risk of complications from vaccine-preventable diseases than the uninfected.

Methods: Anti-diphtheria and anti-tetanus antibodies (correlate of protection: antibody level >0.1 IU/ml) were assessed by ELISA in 29 HIV-infected and 20 uninfected children.

Results: HIV-infected children were significantly more likely to have lower levels of antibody to diphtheria toxoid when compared to their uninfected counterparts, in both the four dose ($p=0.004$) and the five dose ($p=0.007$) recipients. HIV-infected children were significantly ($p=0.02$) more likely to have non-protective immunity (antibody level <0.1 IU/ml) for diphtheria and tetanus toxoids than their uninfected counterparts, in the five dose recipients only. This difference in immunity between the groups, in the four-dose recipients was observed for diphtheria toxoid ($p=0.05$) only.

Conclusion: Our study has determined that immunity to tetanus and diphtheria toxoids in HIV-infected children and adolescents is suboptimal when compared to their uninfected counterparts. We, therefore, strongly recommend developing strategies within the scope of all pediatric practices, to keep up with timely vaccinations of all children and adolescents, particularly the high- risk groups, in this era of COVID-19 pandemic.

Keywords: HIV-infected children, Non-protective immunity, Diphtheria toxoid

Corresponding author: Shahana A Choudhury, Meharry Medical College, USA, E-mail: schoudhury@mmc.edu

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