Association of non-type b Haemophilus influenzae with HIV

We were interested to read the article by von Gottberg et al. describing surveillance for Haemophilus influenzae infections in South Africa and the impact of H. influenzae type b (Hib) vaccine. The association of non-type b H. influenzae with HIV in their report was striking: 94% of isolates that were non-typable, and 100% of isolates with serotypes other than b, were from HIV-positive children.

In our own evaluation of the effectiveness of Hib vaccine in children aged < 5 years in a district in Kenya, we saw a similar association between non-type b H. influenzae and HIV. Among 22 children with non-type b invasive H. influenzae infections, 10 were HIV-positive, while among 54 children with invasive Hib infections, 8 were HIV-positive (OR 4.8, 95% confidence interval 1.3–17.1). The 22 non-Hib H. influenzae isolates included 9 that were of other serotypes (5 type a, 1 type c, 1 type e, and 2 type f), 4 of which were from children with HIV, and 13 non-typable isolates, 6 of which were from children with HIV. The ORs for the association of other H. influenzae types and non-typable H. influenzae with HIV when compared to Hib were 4.6 and 4.9, respectively. It is unlikely that short-term replacement of Hib disease with non-type b H. influenzae disease was occurring in Kenya because the surveillance at our study site was consistent over the study period and we did not detect an increase in non-type b H. influenzae disease cases after vaccine introduction.

These data show that the association of non-type b H. influenzae with HIV is approximately 5 times stronger than that between Hib and HIV. As the use of Hib vaccine spreads throughout Africa and other regions where HIV prevalence is high, HIV-positive children represent a sensitive population in which to monitor for replacement disease with H. influenzae of serotypes other than type b.

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References