

## 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.<sup>1</sup> 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,<sup>2</sup> 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

1. von Gottberg A, de Gouveia L, Madhi SA, du Plessis M, Quan V, Soma K et al. Impact of conjugate *Haemophilus influenzae* type b (Hib) vaccine introduction in South Africa. *Bull World Health Org* 2006;84(10):811-818.
2. Cowgill KD, Ndiritu M, Nyiro J, Slack MPE, Chipfatsi S, Ismail A, et al. Effectiveness of *Haemophilus influenzae* type b conjugate vaccine introduction into routine childhood immunization in Kenya. *JAMA* 2006; 296:671-678.

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