Long term serological response to Vi vaccine and protective immunity

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Keith P Klugman, Karin Keddy, Nancy Bouveret Le Cam, Frank Hansford

Abstrak

Melanjutkan suatu penelitian klinis yang luas yang dilakukan secara randomized double-blind *tentang polisakarida kapsul Vi versus plasebo pada tahun 1985, kami telah dapat meneliti 83 individu 10 tahun kemudian. Mereka berumur 15 sampai 18 tahun, dan antibodi terhadap Vi diukur secara* radioimunoassay *pada 40 orang yang sebelumnya mendapat vaksin tifoid dan pada 43 orang yang mendapat kontrol polisakarida kapsul meningokokus. Proporsi anak-anak dengan antibodi di atas tingkat yang dianggap protektif ≥ 1 µg/ml adalah 58% di kedua kelompok. Proporsi anak-anak dengan antibodi Vi ≥ 1 µg/ml pada kelompok vaksinasi Vi mirip dengan hasil penelitian pada anak-anak ini 3 tahun setelah imunisasi. Proporsi anak-anak dengan antibodi protektif pada kelompok kontrol bertambah secara bermakna 7 tahun kemudian, anak-anak ini tinggal di daerah endemis. Data ini menunjukkan bahwa vaksin Vi mungkin masih protektif 10 tahun setelah vaksinasi, namun paparan yang terus menerus pada demam tifoid menimbulkan tingkat antibodi protektif yang bermakna pada anak-anak usia 15-18 tahun yang tidak divaksinasi. Penelitian ini menunjukkan bahwa antibodi Vi umumnya tinggi pada orang yang tinggal di daerah endemik tifoid dan tidak berhubungan dengan infeksi baru atau karier kronis. Perlu penelitian lebih lanjut tentang imunogenitas jangka panjang vaksinasi Vi di daerah non-endemik.*

Abstract

Following a large randomized double-blind clinical trial of Vi capsular polysaccharide versus placebo conducted in 1985, we were able to identify 83 subjects 10 years later. These individuals were aged 15 to 18 years and Vi antibodies were measured by radioimmunoassay in the 40 individuals who had previously received typhoid vaccine and 43 individuals who pad previously received meningococcal control capsular polysaccharide. The proportion of children with antibodies above a presumed protective level of ≥ 1 µg/ml was 58% in both groups. The proportion of children with Vi antibodies ≥ 1 µg/ml in the Vi vaccinated group were similar to that found in a previous study of children from this study tested three years after immunization. The proportion of children with protective antibody in the control group had increased significantly during the 7 additional years in which these children had lived in a typhoid-endemic area. These data suggest that Vi vaccine may still be protective 10 years after vaccination but ongoing exposure to typhoid fever conveys significant levels of protective antibody amongst unvaccinated children by the age of 15 - 18 years. This study suggest that Vi antibodies are commonly elevated amongst individuals living in typhoid-endemic areas and are not only associated with recent infection or chronic carriage. Further studies on the long term immunogenicity of Vi vaccination are indicated in individuals living in non-endemic areas.

The Department of Medical Microbiology, School of Pathology of the South African Institute for Medical Research and University of the Witwatersrand, Johannesburg