LETTER

Childhood immunisation with conjugate vaccines and prevention of pneumonia

Principi and Esposito1 describe that widespread use of Haemophilus influenzae b (Hib) and pneumococcal conjugate vaccine (PCV7) has nearly eliminated pneumonia due to the first pathogen and significantly reduced the number of cases due to the second pathogen. So, they advise a strong recommendation of these vaccines worldwide. However, the Indonesia probe-trial cited by them actually found more cases of pneumonia admitted to hospital among those vaccinated, and meningitis admissions were not reduced significantly either. The trial did not support a major role for Hib vaccine in overall pneumonia prevention programmes, but in view of high incidences of Hib meningitis and pneumonia found in the study, the authors mentioned that inclusion of Hib vaccine in routine immunisation programmes in Asia deserves consideration. But if we further analyse this statement, the following points need attention. The cost of these newer vaccines precludes their routine and universal use in most developing countries. In addition, the shift of the disease epidemiology due to an increase in the less common serotypes not covered by the vaccine is being reported. Children in Gambia receiving both vaccines continued to have 15.4 episodes of severe pneumonia per 1000 child years.2 In western countries, the wisdom of having introduced the Hib vaccine is also now being questioned. The vaccine has effectively reduced the incidence of Hib disease, at the same time resulting in an increase of non-Hib and non-serotype strains, causing invasive disease in the post-Hib vaccine era.3 In the Dallas study, PCV7 reduced the incidence of invasive pneumococcal disease (IPD) by reducing the incidence of vaccine-type disease, but at the same time increasing non-vaccine serotypes (particularly 19A) that are more resistant to antimicrobials.4 PCV7 covers 65–80% of serotypes associated with IPD in western countries, but the serotype coverage is lower in developing countries. The new generation vaccines (PCV10 and PCV13) are expected to cover 50–80% of IPD not only in western countries but also worldwide.5 In addition to the PCV7 serotypes, PCV10 covers against strains 1, 5 and 7F and PCV13 covers against strains 1, 3, 5, 6A, 7F and 19A. Both these vaccines also offer broader coverage against pneumococcal strains prevalent in developing countries. So, further surveillance of the changing ecology of these organisms, and study of the true burden of disease in developing countries (also including the cost–benefit ratio of vaccinating each child), is needed before proceeding to universal immunisation.

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