Pneumococcal Vaccination Challenges in Renal Disease or Renal Transplant

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Dear Sir,

There are many challenges to find the best vaccine against pneumococcal bacterial infection due to high incidence of resistance by antibiotic, serotype diversity among patients and technical problems that found after establishing a new vaccine when most prevalent serotypes 35B and 23A are not included in PPV23 and PCV13 vaccines while serotype 19A is included in both vaccines.^[1]

The power of immunogenicity of vaccine in special target group such as renal disease partly related to uremia, but the mechanisms of unresponsiveness are multifactorial.^[2] It seems that response to pneumococcal vaccine in advanced renal disease and renal transplant patients is unsatisfactory.^[3] Pneumococcal vaccines developed successfully from 14 valent pneumococcal in 1977 to 23 valent pneumococcal vaccines in 1983, and conjugated vaccine as a more effective seven valent pneumococcal type vaccine used for children. Pneumococcal vaccines can cover up to 88% of streptococcus pneumonia pathogenic serotypes but practically in nephrotic syndrome patients with peritonitis, pneumococcal vaccine covered near half of streptococcal pneumonia pathogenic types while all serotypes were susceptible to penicillin.^[4,5] Unfortunately, our information about pneumococcal vaccine in renal disease is limited to the selected small sample size with favourable laboratory and clinical condition such as age, serum creatinine in short time of surveillance without control group for comparison and shows that the best immunogenicity can be achieved in 4 weeks (86%) that remains in 57% of cases up to 6 months after vaccination. In spite of that the conjugates vaccine type make stronger immunogenicity we cannot find any differences between polysaccharide and conjugate type vaccine to enhance immunogenicity and conjugate vaccine type revaccination make a desirable response shortly that falls rapidly to pre-vaccination period. Such truth is incompatible with American society of nephrology guideline for revaccination of of pneumococcal vaccine every 5 years in renal transplant.^[2] In summary, the efficacy of the pneumococcal vaccine in renal disease and renal transplantation is unfavourable based on limited studies, new guidelines based on less biased studies, can establish a more effective vaccination protocol that be addressed for other vaccines.

CONFLICT OF INTEREST

The author declares no conflict of interest.

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