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Pneumococcal polysaccharide vaccines for elderly: Here, there and everywhere

William Osler, the author of the textbook The Principles and Practice of Medicine, first published in 1892, in the chapter on Diseases of the Respiratory System describes the prognosis of pneumonia: "In children and in healthy adults the outlook is good. In the debilitated, in drunkards and in the aged the chances are against recovery. So fatal is it in the latter class that it has been termed the natural end of the old man". The primary causative agent of pneumonia is *Streptococcus pneumoniae*. S. *pneumoniae* is surrounded by a thick polysaccharide capsule which protects the bacterium from direct attack by the immune system. For the immune system, S. *pneumoniae* is not one single bacterium but at least 93 different ones are recognized because the capsular polysaccharide comes in different forms (serotypes). The composition of current pneumococcal polysaccharide (conjugate) vaccines are based on the most prevalent serotypes in otitis media in white, American children. In children, these vaccines are very effective in reducing the incidence of invasive pneumococcal infections and moderate effective for mucosal infections. For pneumonia in elderly in various regions and of various ethnicities, this composition is not necessarily ideal. Moreover, introduction of a vaccine with a given composition may lead to the emergence of thus far rare pneumococcal serotypes. Future generations of pneumococcal vaccines are aimed to be equally effective here, there and everywhere.

Biography

Ger T Rijkers is a Medical Immunologist and Professor in Biomedical and Life Sciences at Utrecht University. He is the Head of the Science Department of University College Roosevelt in Middelburg, Netherlands. He also works as a Senior Scientist at the Laboratory of Medical Microbiology and Immunology of the St. Antonius Hospital in Nieuwegein. He has a broad research interest with emphasis on mucosal immunology, immunoregulation (in autoimmune diseases, allergic diseases and infections), interaction between gut microbiota and the immune system, and, last but not least, vaccination. He has published over 300 papers in peer-reviewed scientific journals. He has published (as Editor in Chief) the textbook "Immunologie". He is a Member of the Editorial Board of Beneficial Microbes and of Pneumonia.

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