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Effectiveness and immunogenicity of pneumococcal vaccination in splenectomized and functionally asplenic patients

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The purpose of this study was to investigate the effectiveness of pneumococcal vaccination, using the 23-valent pneumococcal polysaccharide vaccine (PPV23) and/or the 7-valent pneumococcal conjugate vaccine (PCV7), in preventing overwhelming post-splenectomy infection (OPSI) among adult asplenic patients and patients after splenectomy. Between 1996 and 2009 145 splenectomized and 2 functionally asplenic patients received either one or both vaccinations. The main cause of death in 68% of the 53 patients who died was the underlying haemato-oncological disease, followed by septic shock in 13.2%. In the 94 patients who were still alive after this period, twelve suffered from post-vaccine complications: pneumonia in 9 patients, otitis media in 2, pneumococcal sepsis in 4. Splenectomized patients vaccinated in the previous five years ($n=15$) showed significantly higher GMCs ($P<0.05$) against serotypes 4, 6B, 9V, 14, 18C, 19F and 23F than the non-splenectomized non-vaccinated control group ($n=34$). Patients vaccinated in the first 5 years after splenectomy by PCV7 had strong serological responses. Postvaccinal complications occurred in less than 10% after immunisation, but post-vaccine pneumococcal sepsis was still diagnosed in 3.3% of the splenectomized patients still alive in 2009.

Biography

Stephanie Plefka graduated from Medical University of Vienna in 2011 at the age of 25 years. Her research project focused on pneumococcal vaccination in splenectomized patients and was operated at the Department of Internal Medicine I, Division of Infectious Diseases and Tropical Medicine at the Medical University of Vienna. Since 2012 she works as a doctor in training to become a General Practitioner at the Hospital Wilhelminenspital in Vienna.

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