

1098. The Immunogenicity of PCV13 compared to PPSV23 in Immunocompetent Older Adults with Stable High Risk Conditions

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Background. Predisposing factors for serious pneumococcal community-acquired pneumonia and invasive pneumococcal disease include common chronic medical conditions such as cardiovascular and pulmonary disease as well as diabetes mellitus. Previous studies of the immunogenicity of PCV13 have shown that the vaccine elicits robust immune responses in populations of immunocompetent adults 50 years and over that included healthy adults as well as those with stable high risk conditions. In this evaluation, we compared the functional immune responses of study participants with cardiovascular, pulmonary disease or diabetes mellitus after PCV13 and PPSV23 administration.

Methods. We evaluated two studies that enrolled pneumococcal vaccine naïve adults aged 60-64 years. In these studies, serotype-specific functional antibody titers 1 month after vaccination with PCV13 or PPSV23 were determined by opsonophagocytic activity (OPA) assays. To increase sample size OPA data from study participants with stable cardiovascular disease, pulmonary disease, or diabetes mellitus were pooled

from both studies and OPA geometric mean titers (GMTs) after PCV13 and PPSV23 were descriptively compared.

Results. The clinical studies were not stratified for risk conditions at enrolment, and numbers of subjects varied. In each high risk group OPA GMTs increased from before to after PCV13 vaccination for all serotypes. PCV13 elicited numerically higher OPA GMTs compared to PPSV23 for the majority of serotypes and statistically significantly higher OPA GMTs for 4 (cardiovascular disease), 7 (diabetes mellitus), and 9 (pulmonary disease) of 12 serotypes common to both vaccines and for serotype 6A unique to PCV13. High-risk subjects exhibited similar OPA responses to PCV13 compared to non-high risk subjects.

Conclusion. In adults 60-64 years of age with underlying stable cardiovascular disease, pulmonary disease or diabetes mellitus, PCV13 induces higher functional antibody responses than PPSV23 for the majority of serotypes, and similar responses compared to non-high risk subjects, indicating that vaccinating these immunocompetent high-risk adults with PCV13 likely results in improved benefits to those vaccinated with PPSV23, for serotypes in common and 6A.

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