

**1578. Clinical Features, Vaccine Status and *S. Pneumoniae* Serotypes among HIV-positive and HIV-negative Individuals Diagnosed with Invasive Pneumococcal Disease**

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**Background.** HIV-positive persons have higher risk of Invasive Pneumococcal Disease (IPD) despite availability of HIV treatment and Pneumococcal polysaccharide (PPV23) vaccine. Clinical features, vaccine status and serotypes in IPD among HIV-positive and HIV-negative adults may help inform vaccine guidelines.

**Methods.** We examined HIV-positive and HIV-negative adult members of Kaiser Permanente Northern California (KPNC) diagnosed with IPD between 1996-2011. Cases were identified from a previously described cohort study of HIV-positive and demographically matched HIV-negative adults. IPD was defined as culture positive *S. pneumoniae* from normally sterile sites. We reviewed electronic medical records for demographics, comorbidities, vaccination, serotypes and compared these by HIV status with chi squared tests for categorical and t-tests for continuous variables.

**Results.** 109 HIV-positive and 75 HIV-negative adults were diagnosed with IPD. The HIV group was diagnosed with IPD at younger mean age than HIV-negative group (47 vs 54 years,  $P < 0.001$ ). The HIV group had more obesity ( $p = 0.036$ ) and less hypertension ( $p = 0.027$ ) than HIV-negatives, but otherwise prevalence of comorbidities (e.g., smoking, asthma, cancer) was similar. HIV patients were more often vaccinated with PPV23 prior to IPD (56% vs 30.7%,  $p < 0.001$ ).

Of cases serotyped (37 in HIV-positive, 36 in HIV-negative), there was a suggestion for a higher prevalence among HIV-positive cases of serotypes covered by both the existing PPV23 vaccine (83.8% vs 66.7%,  $p = 0.11$ ), and the recently approved Pneumococcal conjugate vaccine (PCV13) (16.2% vs 8.3%;  $p = 0.062$ ). The most common serotypes overall were 19A ( $n = 17$ ; 23%), 7F ( $n = 6$ ; 8%) and 22F ( $n = 6$ ; 8%), with higher prevalence seen among HIV-positive cases for 19A (35.1% vs 11.1%;  $p = 0.025$ ), but no difference for 7F ( $p = 0.43$ ) or 22F ( $p = 1.0$ ).

**Conclusion.** HIV patients with IPD were more likely to have been vaccinated with PPV23, suggesting this vaccine's reduced effectiveness in this population. The risk of IPD and associated serotypes among HIV-positive individuals should be closely monitored given the recent change in vaccine strategy to use both PCV13 and PPV23.

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