

Abstract:

Abstract Female sex workers in Nairobi were prospectively evaluated for risk factors of incident *Chlamydia trachomatis* infection. Independent risk factors included cervical ectopy ($P=.007$), gonococcal infection ($P=.002$), human immunodeficiency virus (HIV) seropositivity ($P=.003$), HIV seroconversion ($P=.001$), and duration of prostitution ($P=.002$). Eighteen different *C. trachomatis* outer membrane protein (omp1) genotypes were identified, with the allelic composition of the *C. trachomatis* population changing significantly over time ($P=.005$). Seventeen of 19 reinfections \geq 6 months apart were with different *C. trachomatis* omp1 genotypes. Women with HIV infection had an increased proportion of visits with *C. trachomatis* infection ($P=.001$) and an increased risk of reinfection ($P=.008$). Overall, the data demonstrate significant fluctuations in the genotype composition of the *C. trachomatis* population and a reduced rate of same-genotype reinfection consistent with the occurrence of strain-specific immunity.