**Immunogenetic correlates for Chlamydia trachomatis-associated tubal infertility**

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## Abstract:

OBJECTIVE: To understand immunogenetic mechanisms of Chlamydia trachomatis infection and tubal scarring. METHODS: We measured and compared previously significant human leukocyte antigen (HLA) class II DQ alleles, their linked DRB genes, and polymorphisms in selected cytokine genes (tumor necrosis factor alpha-308 promoter; transforming growth factor beta1-10 and -25 codons; interleukin 10-1082, -819, and -592 promoters; interleukin 6-174 promoter; and interferon gamma+874 codon 1) among Kenyan women with confirmed tubal infertility with and without C trachomatis microimmunofluorescence antibody. RESULTS: Two class II alleles, HLA-DR1*1503 and DRB5*0101, were detected less commonly in C trachomatis microimmunofluorescence seropositive women than in C trachomatis microimmunofluorescence seronegative women with infertility (0% versus 20%; odds ratio [OR] 0.05; 95% confidence interval [CI] 0, 0.7, and 6% versus 26%; OR 0.2; 95% CI 0.02, 1.0, respectively). These alleles are commonly linked as a haplotype at the DRB locus. This finding could not be explained through linkage disequilibrium with the other studied HLA or cytokine genes. CONCLUSION: These alleles may lead to an immunologically mediated mechanism of protection against C trachomatis infection and associated tubal damage, or alternatively increase risk for tubal scarring due to another cause.