

## **Antibodies to opacity proteins (Opa) correlate with a reduced risk of gonococcal salpingitis.**

### **Abstract:**

Acute salpingitis complicating cervical gonococcal infection is a significant cause of infertility. Relatively little data are available concerning the pathophysiologic mechanisms of this disease. A cohort of 243 prostitutes residing in Nairobi were followed between March 1985 and April 1988. Gonococcal cultures were performed at each visit, and acute salpingitis was diagnosed clinically. Serum at enrollment was tested by immunoblot for antibody to gonococcal outer membrane proteins. 8.6% (146/1689) of gonococcal infections were complicated by salpingitis. Increased risk of salpingitis was associated with younger age, shorter duration of prostitution, HIV infection, number of gonococcal infections, and episodes of nongonococcal salpingitis. Rmp antibody increased the risk of salpingitis. Antibody to Opa decreased the risk of salpingitis. By logistic regression analysis, antibody to Opa was independently associated with decreased risk of gonococcal salpingitis (adjusted odds ratio [OR], 0.35; 95% confidence interval [95%CI], 0.17-0.76); HIV infection (adjusted OR, 3.5; 95% CI, 0.96-12.8) and episodes of nongonococcal salpingitis (adjusted OR, 3.4; 95% CI, 1.8-6.4) were independently associated with an increased risk of salpingitis. Antibody to Opa appears to protect against ascending gonococcal infection, perhaps by interfering with Opa mediated adherence and endocytosis. The demonstration of natural immunity that protects against upper genital tract infection in women suggests that a vaccine to prevent gonococcal salpingitis is possible.