



Doxycycline PEP for STI Prevention

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Doxycycline post-exposure prophylaxis (doxy PEP) after sex can prevent bacterial sexually transmitted infections—and adding a vaccine further reduces the risk for gonorrhea—but this approach does not work equally well for everyone.

The recent DoxyPEP study enrolled gay men and transgender women in San Francisco and Seattle. The study found that HIV-positive participants who received a single oral dose of the antibiotic doxycycline within 72 hours after condomless sex were 62% less likely and HIV-negative participants on pre-exposure prophylaxis (PrEP) were 66% less likely to acquire gonorrhea, chlamydia or syphilis. Similarly, the French DoxyVAC study, which enrolled gay men on PrEP, found that doxycycline reduced the risk for chlamydia by 89%, syphilis by 79% and gonorrhea by 51%. What's more, a vaccine that prevents meningitis caused by related bacteria also reduced gonorrhea risk by 51%; men who got both the antibiotic and the vaccine saw an additive benefit. Reassuringly, a follow-up DoxyPEP analysis found that preventive doxycycline did not lead to a marked increase in antimicrobial resistance.

However, a parallel trial did not show the same benefit for young cisgender women in Africa. In the dPEP Kenya trial, women randomly assigned to take doxycycline after sex had 35 new cases of chlamydia and 19 new cases of gonorrhea during follow-up, compared with 50 and 12 cases, respectively, in the standard care group. Neither difference was statistically significant. The researchers suggested the poorer performance of doxy PEP for women might be due to anatomical differences, drug resistance or suboptimal adherence.

“The results from the study are deeply disappointing, and we are committed to understanding why doxycycline PEP did not work in this population and also determining the next steps for how to identify prevention tools that will work for and can be used by women,” said Elizabeth Bukusi, MD, PhD, MPH, of the Kenya Medical Research Institute.