

Molecular assay-based extragenital screening for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in men who have sex with men

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Introduction

Chlamydia trachomatis (CT) and *Neisseria gonorrhoeae* (NG) are prominent sexually transmitted infections (STIs) continuing to affect young populations, particularly men who have sex with men (MSM), with an alarming disproportion. Extragenital screening, targeting rectal and pharyngeal sites, has been underscored due to the high incidence of asymptomatic infections in these locations, potentially facilitating undetected STI transmission.

In January 2021, the Food and Drug Administration cleared the Roche Cobas 4800 CT/NG assay as the latest molecular assay for detecting CT/NG in rectal and pharyngeal swab samples.

Methods

This study analyzed the outcomes of extragenital screenings for CT and NG among MSM attending the Infectious Disease Clinic of the Fondazione Policlinico Universitario A. Gemelli, for HIV pre-exposure prophylaxis (PrEP) or antiretroviral treatment, from February to July 2023.

Using the Roche cobas 4800 CT/NG molecular assay, pharyngeal (n=117) and rectal (n=107) swab samples were examined. The sample cohort comprised individuals on PrEP (n=35) and those living with HIV (LwHIV) on antiretroviral treatment (n=77).

Results

Out of 112 MSM tested, pharyngeal swabs revealed 2 (2.7%) positive for CT only, 14 (13.4%) for NG only and 1 (0.9%) for both. Rectal swabs indicated 3 (2.8%) positive for CT only, 9 (8.4%) for NG only and 2 (1.9%) for both. Notably, 4 (3.7%) MSM had NG infections at both sites. Symptomatic cases were relatively low, with only 7 (33%) of 21 MSM with at least one positive result showing symptoms. Prevalence of positive results was higher in PrEP users (25.7%) than in people LwHIV (15.6%), although not statistically significant difference between the two groups was detected ($p = 0.156$). Treatment was administered accordingly, with doxycycline for CT and ceftriaxone for NG infections.

Conclusion

Molecular detection of CT and NG in extragenital sites facilitates early identification and treatment of these STIs, that were found at a significant prevalence in an asymptomatic stage among MSM. This study supports the enhancement of routine multisite screening to curb STI transmission within high-risk populations.