IOCD 2025 Conference

The 1st International Online Conference on Diseases

09–11 September 2025 | Online

MDPI

Prevalence and Co-Infection of Mycoplasma Genitalium and *Gardnerella vaginalis*, Among Moroccan Women: Implications for Sexual and Reproductive Health

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INTRODUCTION & AIM

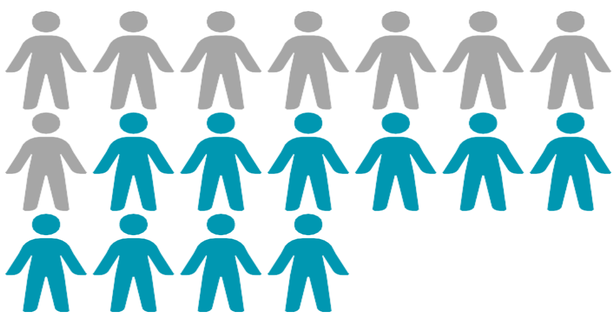
Women infertility affects around 50% of couples who have difficulty conceiving, impacting their emotional and relational well-being. While hormonal profiles and endometriosis are frequently assessed in reproductive health, bacterial vaginosis may act as a gateway indicator for detecting underlying infections, including undiagnosed Sexually transmitted infections STI. STI are emerging urogenital pathogens and represent a growing global sexual health challenge. Their coexistence with *Gardnerella vaginalis* a key contributor to bacterial vaginosis, raises clinical concerns due to potential reproductive health complications.

This study investigates the prevalence and co-infection of Mycoplasma Genitalium as a STI and *G. vaginalis* in a cohort of Moroccan women, evaluating potential impacts on sexual health and fertility. The aim of this study is to highlight that STIs may play a more significant role in fertility disorders than previously recognized, especially within the Moroccan context.

METHOD

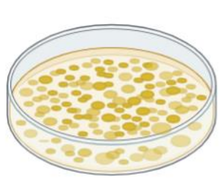
Vaginal swabs were collected from women presenting with symptoms of vaginal infection at gynecology and sexual health clinics in Tangier, Morocco. *G. vaginalis* detection was performed using standard bacteriological techniques: culture, Gram staining, and wet mount microscopy. Mycoplasma Genitalium analysis involved DNA extraction using a magnetic bead-based method, followed by multiplex PCR targeting *Mycoplasma Genitalium genome.*

Study population :

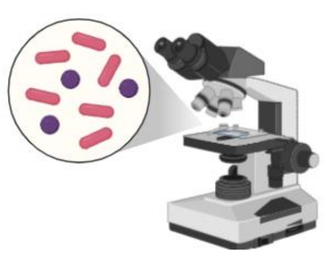


50 Women presenting vaginal infection sympostoms and discomfort

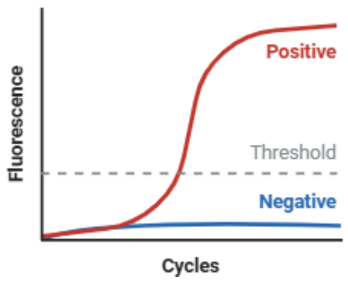
Laboratory techniques



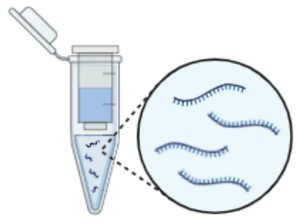
Culture



Wet amount microscopy and gram staining



PCR Amplification



Magnetic bead extraction DNA

Statistical analysis was performed using chi-square tests for categorical variables and independent t-tests for continuous variables performed with JMPSAS software.

Significance of results: Statistical analyses revealed no significant correlations between Mycoplasma positivity and any of the tested variables, including pH, leukocytes, epithelial cells, and *G. vaginalis* detection (*p > 0.05*)

RESULTS & DISCUSSION

Figure 1: Distribution of *Gardnerella vaginalis* presence among PCR-positive and PCR-negative samples. While co-infection with Mycoplasma was frequently observed in *G. vaginalis*-positive women, a substantial number of *G. vaginalis*-only cases were PCR-negative (*p = 0,339*).

Figure 2: Distribution of vaginal pH values among PCR-positive and PCR-negative samples. A slight elevation in pH tends to be more frequent in PCR-positive cases, although no statistically significant difference was found (*p = 0,197*).

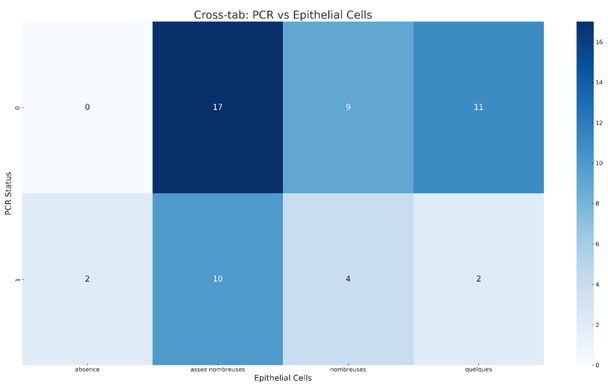


Figure 3: Cross-tabulation between epithelial cell abundance and Mycoplasma PCR result.

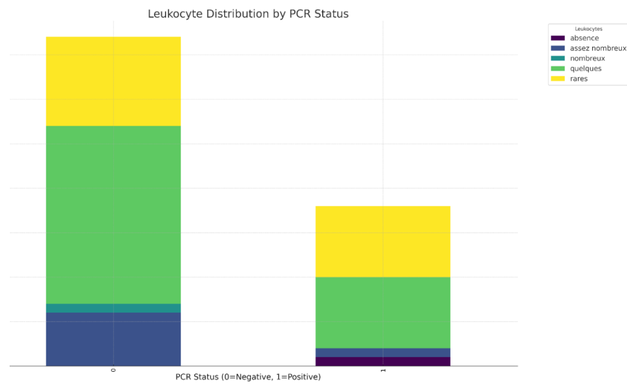


Figure 4: Distribution of leukocyte levels across PCR-positive and PCR-negative samples (*p =* 0.291).

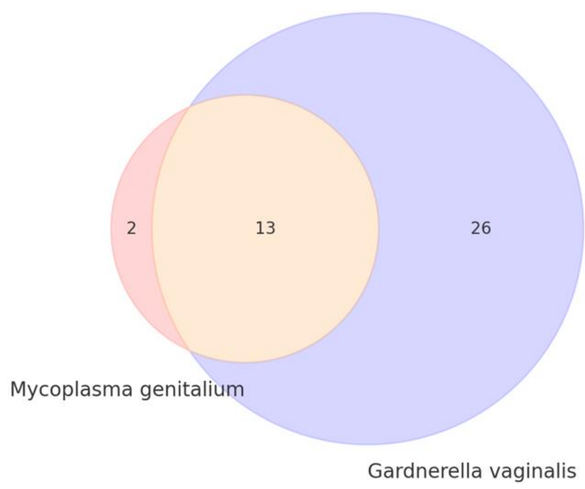


Figure 5: Distribution of patients according to the presence of Mycoplasma Genitalium and/or Gardnerella vaginalis.

CONCLUSION

Our study found that conventional cytological indicators, including pH, leukocyte count, and *Gardnerella vaginalis* presence, were **not significantly associated** with *Mycoplasma Genitalium* detection (p > 0.05). Despite this, the **clinical relevance of co-infections** remains notable, highlighting the **limitations of traditional diagnostic methods** that may fail to detect asymptomatic or subclinical infections. Given the strong link between *Mycoplasma* and infertility, integrating **molecular diagnostics such as PCR** into routine fertility assessments is crucial. Larger, long-term studies are needed to confirm these findings and better understand the **reproductive impact** of STI-related co-infections.