

Mycoplasma genitalium: An emerging superbug among men having sex with men

Dear Editor,

We read with interest the article by Tandon *et al.*¹ on the evidence of *Mycoplasma genitalium* infection among women. Limited data on the prevalence of *Mycoplasma genitalium* is available from India; hence, we wish to contribute additional perspectives on the same. *Mycoplasma genitalium* has a stupendous pathogenic potential. In addition to the various female morbidities, it is also known to cause a variety of genital and extragenital infections in both males and females.²

The authors reported an overall prevalence of *Mycoplasma genitalium* to be 6.7% in sexually active females, the majority (88.3%) of whom were female sex workers, a high-risk group for acquiring sexually transmitted infections. However, we wish to add that men having sex with men (MSMs) is another high-risk group that deserves attention.

We have been closely monitoring the prevalence of genital mycoplasmas for the past several years among patients attending the sexually transmitted infection clinics and have observed a high prevalence of *Mycoplasma genitalium* among the high-risk group individuals, including (MSMs) and human immunodeficiency virus (HIV) seropositive patients, as compared to the heterosexual population.^{3,4} In a recent study conducted among (MSMs), *Mycoplasma genitalium* infections were reported in 7.2% of patients, with anorectal infections detected in 61.5% of those who tested positive for *Mycoplasma genitalium*.³ This underscores the importance of screening extragenital sites, which may act as a hidden reservoir for disease transmission, particularly among the high-risk groups.

The authors have adeptly highlighted that co-infections with *Mycoplasma genitalium* among the patients positive for other sexually transmitted infections, including HIV, are common. High-risk group individuals can be exposed to various sexually transmitted infections in a number of ways. Multiple sexual partners, higher levels of high-risk sexual behaviour coupled with potential for penile abrasions or rectal trauma, resulting

from intense sexual activity, facilitates the transmission and acquisition of sexually transmitted infections.⁵ Studies have shown that almost half of the *Mycoplasma genitalium* infections are co-infections and the rate of detection of *Mycoplasma genitalium* have been reported to be higher among HIV seropositive MSMs.³ Similar observations have been reported in previous studies as well.⁶

Of note, the authors reported a negative test of cure in 33.3% of the follow-up patients and have suggested reinfection or antimicrobial resistance as the possible probable cause. While reinfection among the high-risk groups is common, *Mycoplasma genitalium* is also known to undergo DNA mutations, thereby exhibiting considerable resistance to fluoroquinolones and macrolides.^{3,7} Mutations in domain V of 23S rRNA gene renders the organism resistant to macrolides, while mutations in quinolone resistance-determining region of *gyrA* and *parC* gene are associated with resistance to fluoroquinolones.³ In a recent study, the macrolide and quinolone resistance in the *Mycoplasma genitalium* isolates has been noted to be 46.2% and 15.4%, respectively.³ The high rates of macrolide and fluoroquinolone resistance in *Mycoplasma genitalium* is a matter of concern.

In addition to the contributing factors like over-the-counter sale of antibiotics, irrational use, or self-administration of antimicrobials various other factors can also play a major role in the emergence of antibiotic-resistant *Mycoplasma genitalium* isolates. After the abrogation of section 377 of the Indian Penal Code in 2018, the consensual sexual conduct between adults of the same sex is not criminalised anymore in India. Thus, MSMs and lesbian, gay, bisexual, transgender, queer, questioning, intersex and asexual (LGBTQIA) population is unhesitatingly seeking medical advice for their sexual health problems, including sexually transmitted infections, for which they are often prescribed broad-spectrum antibiotics. Likewise, HIV seropositive individuals presenting at HIV clinics are also often prescribed antibiotic treatment for various opportunistic infections. Also, the

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antimicrobials prescribed under the syndromic management of sexually transmitted infections, azithromycin in particular, is suboptimal for treating *Mycoplasma genitalium* infections.³ This results in the development of resistance against azithromycin due to the selective pressure created by its use.

Mycoplasma genitalium infections pose a significant diagnostic as well as therapeutic challenge for the treating physicians. A more comprehensive approach, including high index of clinical suspicion, prompt diagnosis, timely therapy, and periodic surveillance with monitoring for drug resistance, seems imperative, not only from a therapeutic but from an epidemiological point of view as well. Tailoring the existing therapeutic guidelines and implementation of effective and efficient sexually transmitted infection control measures will be helpful in preventing the dissemination of this superbug, thereby reducing the overall sexually transmitted infection burden.

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Authors' reply

Thank you for expressing interest in our article 'Evidence of emerging sexually transmitted *Mycoplasma genitalium* infection among women detected using multiplex and uniplex PCR'.¹ We appreciate your efforts in re-emphasising the critical issue of *Mycoplasma genitalium* infection, an emerging sexually transmitted infection.² Your valuable insights into the pathogenic potential of *Mycoplasma genitalium* and its impact on both genital and extragenital infections in males and females is much appreciated.

We wish to highlight that in our initial study conducted among sexually active women with lower genital tract infections attending community clinics, the prevalence of *Mycoplasma genitalium* was found to be nil but the prevalence of other genital mycoplasma was high.³ Notably, all participants in that study reported having a single sexual partner. Building on this, we extended our research to investigate *Mycoplasma genitalium* prevalence in high-risk populations, focusing on female sex workers, among whom we reported a prevalence

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