Emerging STI Superbug: Mycoplasma genitalium

Antibiotic Resistance in *M. genitalium*

- *M. genitalium* is a recognised STI, treated syndromically, with clinical presentation similar to that of *Chlamydia trachomatis*.1
- Mutations in the 23S rRNA gene of *M. genitalium* have been linked with clinical treatment failure and high level *in vitro* macrolide resistance.2
- Macrolide resistance mediating mutations have been observed in 20-50% of cases in the UK, Denmark, Sweden, Australia, and Japan.3
- Resistance is already developing towards the second-line treatment moxifloxacin (fluoroquinolone).5

Treatment options are limited. Inclusion of an antibiotic resistance test in your therapy algorithm will likely improve patient outcome.5

- Omitting a macrolide resistance screen when testing for MG, may lead to inappropriate patient antimicrobial treatment.
- Ineffective antimicrobial treatment can result in persistent infection and ultimate spread of MG which is antimicrobial resistant (AMR).
- Diagnosis is recommended using nucleic acid amplification testing (NAAT) which includes an assessment of macrolide resistance.6
- Screening for *M. genitalium* with a combination of detection and macrolide resistance mutations will provide much needed information to develop personalised antimicrobial treatments and improve patient outcome.6,7

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**Figure 1** For patients infected with macrolide-resistant strains, determination of resistance status will reduce time to effective treatment and improve patient outcome.
M. genitalium (MG) was first identified in the 1980s8 and is now a recognised sexually transmitted infection (STI), more prevalent than N. gonorrhoeae in many populations.9 M. genitalium is associated with 10–35% of non gonococcal urethritis (NGU),7,10 and as much as 45% of persistent/recurrent urethritis.6

M. genitalium is an extremely fastidious and slow growing organism,3 making nucleic acid amplification testing (NAAT) the only viable diagnostic solution.6,9 Treatment options are limited as mycoplasma lack a cell wall, thus are unaffected by many common antibiotics.9,10 Of additional concern is the apparent rapid rate of mutation of MG, resulting in an alarming increase in AMR over relatively short periods of time.3

Potential Health Risks

Most M. genitalium cases are asymptomatic, any associated symptoms are similar to those caused by other STI pathogens such as Chlamydia trachomatis.1

The presence of M. genitalium is associated with an increased risk of NGU10 and of acquiring HIV.12

Increased risk of cervicitis, PID, preterm birth, spontaneous abortion and infertility in women.11

SIGNS AND SYMPTOMS
- Urethritis
- Mucopurulent cervicitis
- Cervical or vaginal discharge
- Acute pelvic pain and/or PID

RISK FACTORS
- Individuals with high-risk sexual behaviour
- Sexual contact with individuals diagnosed with an STI or PID
- Contact with individuals infected with M. genitalium

Improve patient management.
Test for macrolide resistance.

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