

Mycoplasma genitalium treatment guidelines

Also known as MG

Mycoplasma genitalium (MG) is a sexually transmitted bacterium that is difficult to culture. Detection relies on the use of PCR assays. MG is a cause of urethritis in men. In women, MG can cause cervicitis and pelvic inflammatory disease. MG can also be a cause of rectal infection.

Causes

MG is caused by the bacteria *Mycoplasma genitalium*.

Clinical presentation

Mycoplasma genitalium can cause urethritis, cervicitis, pelvic inflammatory disease, and rectal infection. Rectal infection is commonly asymptomatic.

Asymptomatic rectal infection in men who have sex with men (MSM) is common.

Studies are conflicting around the association between MG and proctitis.

MG is associated with preterm delivery and spontaneous abortion and is a possible cause of tubal factor infertility.

MG is uncommonly associated with sero-reactive arthritis.

Clinical indications for testing

- Acute, persistent and recurrent non-gonococcal urethritis
- Cervicitis
- Pelvic inflammatory disease
- Post-coital bleeding
- Sexual contacts of MG. MSM require urine and anorectal swabs. Throat swabs are unnecessary as pharyngeal infection is rare (1%).
- Consider testing prior to termination of pregnancy
- Consider testing in proctitis
- Consider testing in epididymo-orchitis
- Consider testing in balanoposthitis
- Consider testing in sero-reactive arthritis

Screening asymptomatic individuals, other than sexual contacts of MG positive index patient, for MG is currently not recommended.

Diagnosis

Males

Test	Site/ specimen	Comments
NAAT Nucleic acid amplification test	First pass urine (FPU)	Most labs offer NAAT testing for MG, and some NAATs also detect mutations conferring resistance to azithromycin to assist in individualising therapy.
	Urethral swab	A FPU specimen is more sensitive than a urethral swab.
	Anorectal swab	Throat swabs are unnecessary as pharyngeal infection is rare

Females

Test	Site/ specimen	Comments
NAAT -	Vaginal swab	A vaginal swab is the most sensitive specimen followed by cervical swab then urine
	Cervical swab	Women who present with cervicitis, PID or post coital bleeding should be tested for MG.
	FPU	

Management

Index patient

Condition	Recommended	Comments
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Asymptomatic MG	<p>For MG known or suspected to be macrolide-susceptible:</p> <p>Doxycycline 100mg PO, twice daily for 7 days, followed immediately by Azithromycin 1g PO, stat, then 500mg daily for another 3 days (2.5g total)</p> <p>For MG known or suspected to be macrolide resistant:</p> <p>Doxycycline 100mg PO, twice daily for 7-days, followed immediately by Moxifloxacin 400mg PO daily for 7 days</p>	<p>Macrolide resistance mutations are detected in approximately 80% of MSM and 50% of heterosexual men and women infected with MG at Melbourne Sexual Health Centre (MSHC).</p> <p>Infections susceptible to azithromycin develop detectable de novo resistance in 12% of cases treated with azithromycin.</p> <p>To improve treatment efficacy and reduce selection of resistance MSHC developed a sequenced resistance-guided treatment strategy based on the macrolide-resistance profile of <i>M. genitalium</i>.</p> <p>Moxifloxacin is not approved by the Therapeutic Goods Administration (TGA) for this infection and may cause significant side-effects including diarrhoea or tendonitis. We recommend discussing this with patients and assessing for contraindications and drug interactions. Pharmacies typically charge over \$70 for five tablets. There are limited efficacy data and no data for treatment courses of less than 7 days.</p> <p>MG already treated with azithromycin on the same day as they were tested may be cured but confirm this with a test of cure 2-3 weeks later. If treatment fails, resistance is likely, particularly if reinfection is unlikely. Clinicians with no access to resistance testing can assume resistance in azithromycin treatment failures.</p>
MG-associated pelvic inflammatory disease	Moxifloxacin 400mg [PO] daily for 14 days	Refer to PID treatment guidelines
MG in pregnancy	<p>Azithromycin 1g PO, stat, then 500mg daily for another 3 days (2.5g total)</p> <p>OR</p> <p>Pristinamycin 1g PO, 4 times a day for 10 days</p>	-

Resistant MG which has failed moxifloxacin	<p>1) Minocycline 100 mg PO twice daily for 14 days</p> <p>OR</p> <p>2) Pristinamycin 1g PO, 3 times a day for 10 days combined with</p> <p>Doxycycline 100 mg PO, twice daily for 10 days</p> <p>OR</p> <p>3) Sitafloxacin 100 mg PO, twice daily for 7 days combined with</p> <p>Doxycycline 100 mg PO, twice daily for 7-days</p>	<p>Resistance to moxifloxacin was detected in 15-20% of infections in Melbourne in 2016-18 and so moxifloxacin treatment-failures are not uncommon.</p> <p>Minocycline cures 70% of macrolide-resistant infections. Minocycline is available on private script and is therefore a practical option for patients with macrolide-resistant MG who have failed moxifloxacin in the community.</p> <p>Pristinamycin has been used at MSHC at a dose of 1g three times daily combined with doxycycline 100mg bd for 10 days and cures 75% of macrolide-resistant infections. Pristinamycin is available through hospital pharmacies, using the Special Access Scheme of the TGA and can be used in pregnancy. For patients with macrolide-resistant MG in whom doxycycline is contraindicated, prescribe pristinamycin 1g four times daily for ten days.</p> <p>Sitafloxacin in combination with doxycycline has proven effective at MSHC and cures >90% of patients in a published series of patients with highly resistant MG. Access to this medication is limited and requires TGA approval (completion of a Category B TGA form). This option is limited to specialised services so consult with a sexual health physician if no other options are available. A test of cure 2- 3 weeks after completing therapy is essential.</p>
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To avoid the selection of macrolide resistance, STI syndromes such as urethritis, cervicitis, PID and proctitis should be treated with one week of doxycycline 100mg bd, instead of azithromycin. Patients with these syndromes should be tested for MG and recalled if positive. Other MG-infected patients should also pre-treated with doxycycline. Doxycycline lowers the bacterial load, increasing the likelihood of cure with a second antibiotic.

Follow up

Test of cure is important in managing MG because of the risk of persisting, asymptomatic, resistant infection. Test of cure should be performed **2-3 weeks after completing all antimicrobial therapy**.

If symptoms have persisted or rebounded to similar intensity, treatment failure due to resistance is likely, but reinfection is also possible, so assess for risk of reinfection.

Contact tracing & partner management

Testing and treating infected partners is recommended, particularly in a continuing relationship.

Sexual partners should be pre-treated with doxycycline. Doxycycline lowers the bacterial load, increasing the likelihood of cure with a second antibiotic.

Given the high prevalence of macrolide resistance and need for moxifloxacin in cases with resistance, discuss with patients both the benefits of treatment and the risk of uncommon but serious side effects.

Infection rates in contacts are 40–50% in women and MSM (mostly rectal infection) and 30% in heterosexual men.

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Disclaimer

We recognise that gender identity is fluid. In our treatment guidelines, the words and language we use to describe genitals and gender are based on the sex assigned at birth.

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