A cute onset painful urination (dysuria), with or without discharge, is a common presenting complaint in genitourinary medicine for sexually active men, and is often a result of sexually transmitted infection.

Non-gonococcal urethritis (NGU) is a common clinical syndrome, diagnosed based on a combination of symptoms – dysuria, discomfort, discharge – and microscopic findings of pus cells in urethral discharge (with an absence of gram-negative diplococci, i.e., gonococcal infection).

The most common causative organism was previously thought to be *Chlamydia trachomatis*; however, over the last decade, studies have shown that *Mycoplasma genitalium* may be as frequently responsible for NGU.

**FASTIDIOUS BACTERIUM**

*M. genitalium* is a fastidious bacterium that colonises the human reproductive tract and is famous for being the smallest free-living organism (Figure 1). It was long thought to be a commensal bacterium that had no pathogenic qualities. However, there has been increasing evidence since the 1990s...
that *M. genitalium* may be responsible for NGU, with some studies showing it to be present in up to 50% of cases.

The organism is slow-growing and notoriously difficult to culture. Testing in a clinical setting has only been practically possible since the advent of nucleic acid amplification tests (NAATs), which are also used to routinely test for chlamydia and gonorrhoea.

*M. genitalium* is sensitive to macrolides and to a lesser degree tetracyclines. However, widespread use of single doses of macrolides to treat NGU has led to increasing rates of resistance, which may manifest clinically as persistent urethritis despite adherence and avoidance of reinfection.

**INVESTIGATION**
Investigation of urethritis should always involve an NAAT test for gonorrhoea and chlamydia, but *M. genitalium* testing has not been widely available in the UK. This is changing and several assays are gradually being approved for use. In the meantime, *M. genitalium* testing may only be available as an in-house, polymerase chain reaction (PCR), which may not be as sensitive and has a cost implication.

Persisting discharge in a sexually active man who has correctly taken treatment for NGU and has not been exposed to reinfection, ie sex while on treatment or in the following seven days, should raise suspicion of mycoplasma infection, particularly if chlamydia and gonorrhoea NAATs are negative. It is also important to question the man as to whether he has been milking the penis or if he has been exposed to any chemicals or sexual practices that may irritate the urethral mucosa. The possibility of herpes simplex should also be considered, especially if pain is extreme.

**MANAGEMENT**
If *M. genitalium* is identified, referral to genitourinary medicine services would be advised for treatment and follow-up, and partners should be notified. Treatment should be with an extended course of a macrolide, eg azithromycin, as this will have a higher chance of successful cure with a smaller chance of provoking resistance than a single dose.

If a patient has a proven case of *M. genitalium*, their treatment history and risk of resistant strain needs to be considered. Have they already been treated with a single dose of macrolide? Do they have a sexual partner who has recently been treated in this way? If so, a prolonged course of azithromycin may not be appropriate, as resistance may already be developing, and the patient may needlessly have a course of ineffective antibiotics and be a continual risk for further transmission of resistant disease.

If the chance of resistance is high, treatment with a 7- to 14-day course of a quinolone such as moxifloxacin, is recommended. The importance of abstinence during the treatment period must also be emphasised.

It is not advisable to treat all infected patients with moxifloxacin. This drug has a greater side-effect profile than azithromycin, eg tendonitis, and we should limit its use as much as possible to avoid development of resistance. As such, moxifloxacin should be used carefully, in a specialist setting, and reserved for cases of suspected or proven macrolide resistance in symptomatic *M. genitalium* infection.

**FOLLOW-UP**
Following treatment of *M. genitalium*, a test of cure is advised in the context of rising levels of resistance. This should be coupled with rigorous partner notification where possible, and advice around safer sex and condom use.

A three-month follow-up screening should be offered, and advice around contraception given for the patient and partner if both are being tested and treated.

**Declaration of interests:** none declared.

**REFERENCES**