Should we routinely test for *Mycoplasma genitalium* when testing for other sexually transmitted infections?

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Mycoplasma genitalium is a sexually transmitted bacterium that was initially identified as a cause of non-gonococcal urethritis in men.[1] Associations with other genitourinary tract syndromes, including cervicitis and pelvic inflammatory disease in women, are now recognised, albeit with limited understanding of the natural history of infection.[1,2] However, the significance of *M. genitalium* in asymptomatic individuals, including pregnant women, is uncertain. Local and international guidelines advise testing only symptomatic patients unless an asymptomatic person has had sexual contact with someone infected with *M. genitalium* or is to have genitourinary tract surgery that breaches the cervical barrier.[3–5] We report the first data on the epidemiology of *M. genitalium* in an Australian hospital, including in pregnant women, and discuss the difficulties associated with testing asymptomatic patients for *M. genitalium*.

Monash Health is a large health care network in Melbourne that includes three emergency departments and an obstetric service with more than 9000 births each year. Over the 3-month period 1 May – 31 July 2017, we included routine nucleic acid amplification testing (NAAT) (High-Plex Urinogenital multiplex, AusDiagnostics) for *M. genitalium* when sexually transmitted infection multiplex testing of genitourinary specimens (including urine, endocervical, vaginal, and urethral swabs) for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* was requested for emergency department, outpatient clinic, or admitted patients. Testing for *C. trachomatis* is recommended in Australia as part of routine antenatal screening.[4] Our study received ethics approval from the Monash Health Human Research Ethics Committee (reference, RES-17-0000-466Q).

Of 1176 tested patients, 56 (5%) were positive for *M. genitalium*; 67 (6%) were positive for *C. trachomatis*, 12 (1%) for *N. gonorrhoeae*. The prevalence of *M. genitalium* was 3% in men (12 of 365), 5% in women (44 of 811), and 9% in pregnant women (8 of 92) (Box).

The median age of patients positive for *M. genitalium* (24 years; interquartile range [IQR], 19–29 years) was lower than for *M. genitalium*-negative patients (29 years; IQR, 22–39 years), and larger proportions were positive for *C. trachomatis* (odds ratio [OR], 4.6; 95% confidence interval [CI], 2.3–9.5) or *N. gonorrhoeae* (OR, 7.6; 95% CI, 1.8–27). The difference in median age was statistically significant for both males and females, but not clinically significant for female patients (Box). *M. genitalium* was detected in five men with epididymo-orchitis and one with urethritis, and in three women with pelvic inflammatory disease, all without other diagnosed sexually transmitted infections. Four of the pregnant women positive for *M. genitalium* had genitourinary symptoms, but none that were typical for *M. genitalium* infections.

Our case series, although small, has important implications for multiplex sexually transmitted infection NAAT testing. The significance of detecting *M. genitalium* in an asymptomatic patient is unclear. It is important that laboratories, as diagnostic stewards, liaise closely with their clinical colleagues to ensure they undertake only clinically useful testing, and do not deliver clinicians unrequested results of uncertain value.

***Mycoplasma genitalium* testing results for 1176 patients at the Monash Medical Centre, Melbourne, May–July 2017**

	M. genitalium testing				
	Total	Negative result	Positive result	*P**	Odds ratio (95% CI)
Number of patients	1176	1120 (95%)	56 (5%)		
Age (years), median (IQR)	29 (22–39)	29 (22–39)	24 (19–29)	< 0.001	—
Co-infection					
C. trachomatis	67 (6%)	56 (5%)	11 (20%)	—	4.6 (2.3–9.5)
N. gonorrhoeae	12 (1%)	9 (0.8%)	3 (5%)	—	7.0 (1.8–27)
Men					
Number of patients	365	353 (97%)	12 (3%)		
Age (years), median (IQR)	36 (25–50)	36 (25–50)	24 (21–35)	0.009	—
Co-infections					
C. trachomatis	20 (6%)	18 (5%)	2 (17%)	—	3.7 (0.76–18)
N. gonorrhoeae	7 (2%)	7 (2%)	0	—	—
Women					
Number of patients	811	767 (95%)	44 (5%)		
Age (years), median (IQR)	27 (20–35)	26 (20–35)	24 (19–29)	0.030	—
Pregnant	92 (11%)	84 (11%)	8 (18%)	—	1.8 (0.8–4.0)
Co-infections					
C. trachomatis	47 (6%)	36 (5%)	9 (21%)	—	5.2 (2.3–12)
N. gonorrhoeae	5 (0.06)	2 (0.3%)	3 (7%)	—	28 (4.6–172)
Pregnant women					
Number of patients	92	84 (91%)	8 (9%)		
Age (years), median (IQR)	23 (20–29)	23 (20–29)	21 (19–21)	0.28	—
Asymptomatic screen	58 (63%)	54 (64%)	4 (50%)		

CI = confidence interval; IQR = interquartile range. * Mann–Whitney *U* test. ◆

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The significance of *M. genitalium* infection in pregnant women is also unclear, and treatment options are limited. A meta-analysis identified associations with pre-term delivery and stillbirth,[2] but these findings were not confirmed by prospective studies.[6]

We do not recommend routine testing for *M. genitalium*. With increasing awareness of the potential harm of unnecessary antibiotic therapy, this conclusion is in accordance with clinical guidelines recommending treating *M. genitalium* infections only if the patient is symptomatic, has had sexual contact with an infected person, or is to have surgery that breaches the cervical barrier.[3–5] The clinical significance of asymptomatic infections remains to be elucidated.

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