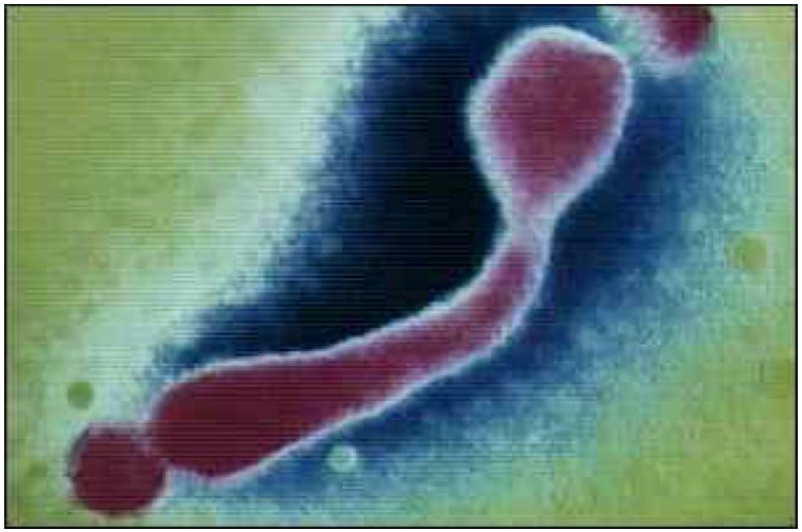
Clinical correlates and prevalence among women with *Mycoplasma genitalium* and *Chlamydia trachomatis* infection visiting a sexual health centre in Sweden



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Mycoplasma genitalium (M. genitalium)

- First discovered in NGU (non-gonoccocal urethritis)1983 in men
- Difficult to cultivate, NAATs necessary
- Sexually transmitted, genitourinary symptomatology
- Less well-documented in gynecological infections
- Cervicitis, Urethritis, PID, Infertility
- Prevalence 2% in low-risk populations, 7.3% in high-risk populations (McGowin 2011)
- Malmö 2.1% 2010, 2.5% 2012 (Bjartling et al)

Objective and Setting

- **Objective**: To demonstrate and compare the prevalence and clinical manifestations of *M. genitalium* and *C. trachomatis* infections in a Swedish female high-risk population.

- **Study design**: Prospective cross-sectional case-control study. Women attending a sexual health centre in December 2010 until December 2011 were invited to participate.
- High-risk population

Methods

- Questionnare
- Consultant nurse triage at Centrum för Sexuell Hälsa (CSH), Malmö
- Physical examination when symptoms
  1. Abnormal discharge
  2. Endocervical wet smear
  3. Microscopy of urine
  4. Bacterial vaginosis (Amsel)

- Self-collected vaginal swabs for *C.trachomatis* and *M.genitalium*

Results

- 2101 women

- *M.genitalium* n=177, 8.3%
- *C.trachomatis* n=89, 4.2%
- Dually infected n= 14

- 19 excluded

- 28% of the *Mycoplasma genitalium* positive women and 22% of the *Chlamydia trachomatis* positive were examined
- 3 negative controls for each woman testing positive

Table 1 Comparison of lifestyle parameters among 233 *M. genitalium* and *C. trachomatis* infected women and 741 controls using the Pearson $\chi 2$ test and Fisher exact test when small numbers 1

	M. genitalium pos, n=159	C. trachomatis pos, n=74	Neg controls, n=741	P value, M. genitalium pos/C. trachomatis pos vs negative controls	P value, M. genitalium pos vs C. trachomatis pos
No. partners previous 6 months (%)					
1	46 (28.9)	32 (43.2)	272 (36.8)	NS/NS	**0.03**
2-5	103 (64.8)	38 (51.4)	427 (57.6)	NS/NS	**0.05**
>6	12 (7.5)	5 (6.8)	40 (5.4)	NS/NS	NS
No. lifetime partners (%)					
1	10 (6.3)	5 (7.1)	28 (3.8)	NS/NS	NS
2-5	33 (20.8)	19 (27.1)	157 (21.2)	NS/NS	NS
>6	124 (78.0)	46 (65.7)	558 (75.3)	NS/NS	**0.05**
Contraceptive use(%)					
Any	115 (72.3)	48 (64.9)	586 (79.1)	0.06/**0.005**	NS
Condom	60 (37.7)	21 (28.4)	343 (46.3)	**0.05/0.003**	NS
Hormonal	66 (41.5)	27 (36.5)	278 (37.5)	NS/NS	NS
IUD copper	8 (5.0)	7 (9.5)	60 (8.1)	NS/NS	NS
Condom latest intercourse (%)	25 (15.7)	15 (20.8)	232 (31.3)	**0.0001**/0.07	NS
Smoking (%)	73 (43.9)	36 (50.7)	260 (35.1)	**0.01/0.009**	NS

Lifestyle results

- **Age**: *M.genitalium* positive 26.6 years (17-60) *C.trachomatis* 27.6 (19-48),(p= 0.83)
- **No. sexual contacts**: *M.genitalium* positive women had more partners compared to *C.trachomatis* pos, but not compared to negative controls
- Lower **contraception** usage among women testing positive
- **Smoking** more common among women testing positive

Selfreported symptoms

	M.genitalium pos , n=159	C.trachomatis pos, n=74	Negative controls, n=741	P value M.genitalium pos/C.trachomatis pos vs negative controls	P value, M.genitalium pos vs C.trachomatis pos
Intermenstrual bleeding	42 (26.6)	10 (13.5)	142(19.2)	**0.04**/NS	**0.03**
Abnormal discharge	60 (38.0)	36 (50.7)	227(30.6)	0.07/**0.001**	0.07

	M.genitalium pos vs negative controls OR (95% CI)	C.trachomatis pos vs negative controls OR (95% CI)
Intermenstrual bleeding	**1.50** (1.01-2.23) p=0.05	0.64 (0.32-1.30) p=0.22
Abnormal discharge	1.37 (0.96-1.96) p=0.09	**2.16** (1.31-3.58) p=0.003

Clinical findings

	M.genitalium pos , n=159	C.trachomatis pos, n=74	Negative controls, n=741	P value M.genitalium pos/C.trachomatis pos vs negative controls	P value, M.genitalium pos vs C.trachomatis pos
Pathological cervical discharge *	8/20 (40.0)	4/9 (44.4)	14/103 (13.6)	**0.009/0.04**	NS
Diagnosis of cervicitis	17/44 (38.6)	8/16 (50.0)	34/185 (18.4)	**0.004/0.007**	NS
Diagnosis of urethritis *	11/35 (31.4)	4/14 (28.6)	24/149 (16.1)	**0.04**/NS	NS

*Vaginal candida excluded

Association of significant variables in *M. genitalium* and *C. trachomatis* infected women compared to negative controls, adjusted for age and smoking

	M.genitalium pos vs negative controls OR(95% CI)	C.trachomatis pos vs negative controls OR(95% CI)
Pathological cervical discharge, candida and BV excluded	**4.35** (1.49-12.6) p=0.01	**6.03** (1.33-27.37) p=0.02
Diagnosis of cervicitis	**3.15** (1.5-6.6) p=0.002	**6.67** (2.13-20.88) p=0.001
Diagnosis of uretritis, candida and BV excluded	**2.4** (1.08-5.32) p=0.03	**3.74** (1.09-12.82) p=0.04

Summary

- High prevalence of *M.genitalium* in this population
- *M. genitalium* positive women more often presented with intermenstrual bleeding and *C.trachomatis* positive women more often reported abnormal discharge
- *M. genitalium* was independently associated with the diagnosis of cervicitis
- The results suggest that infection with *M.genitalium* is associated with less clinical manifestations compared to infection with *C.trachomatis*

Tack!