

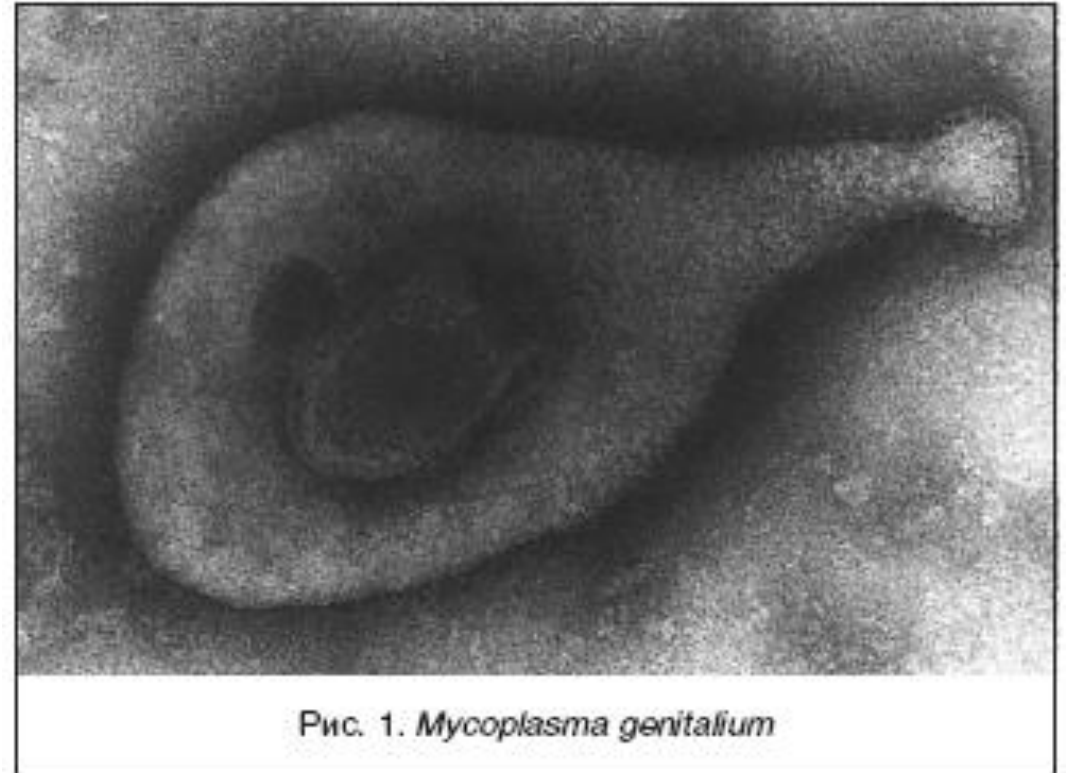
Donderdag 8 februari

Moleculaire diagnostiek

- overzicht 2023
- met verdieping tav

M. genitalium

Bert Mulder



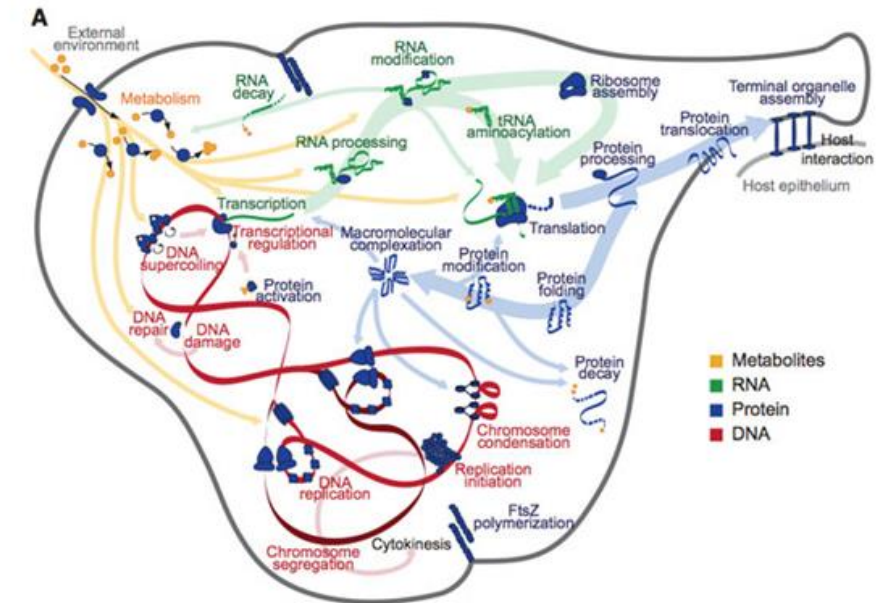
	M. genitalium	M. genitalium	M. genitalium	M. genitalium	M. genitalium	M. genitalium	M. genitalium	M. genitalium
Expert lab. Results	SOA-2001	SOA-2002	SOA-2003	SOA-2004	SOA-3001	SOA-3002	SOA-3003	SOA-3004
Result	educational	negative	negative	negative	negative	educational	negative	educational
mean Cq	28.2					40,9 (1)		36.0
	2023.1A	2023.1B	2023.1C	2023.1D	2023.2A	2023.2B	2023.2C	2023.2D
Participant results								
-								
Number of participants	21	21	21	21	21	21	21	21
Number of participants that reported a result (neg, pos, Cq)	10	9	9	9	13	13	13	13
% participants that reported a result	48%	43%	43%	43%	62%	62%	62%	62%
Mean Cq	28					39		35
Median Cq	28					40		35
Max. Cq	32					41		37
Min. Cq	25					37		33
Negative		9	9	9	13	8	12	1
Positive	10					5	1	12
% correct reported results		100%	100%	100%	100%		92.3%	
% positive (ed.)	100%					38%		92%
% negative (ed.)						62%		8%



Stichting Kwaliteitsbewaking
Medische Laboratoriumdiagnos

Mycoplasma genitalium

- Een van kleinste bacteriën (0.1 μm)
- Geen celwand (wel membraan)
- Niet goed kweekbaar
- 1980 ontdekt in Londen
- 2 ♂ patiënten met NGU



Kenmerken SOA

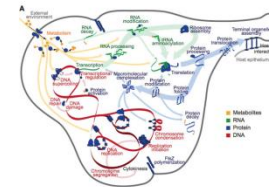
1. Organisme vaker gedetecteerd in symptomatische patiënten
2. Reactie op behandeling met middel waarvoor gevoelig getest
3. Overdraagbaar



Stichting Kwaliteitsbewaking
Medische Laboratoriumdiagnostiek

Sectie Parasitologie

Jensen et al 2004



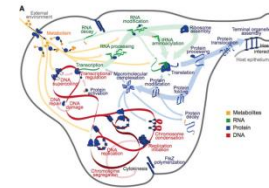
1. Vaker bij symptomen?

- Aanwezig bij 15-20% van ♂ NGU
- In 5-10% van controlegroep
- Gebaseerd op 37 studies



Stichting Kwaliteitsbewaking
Medische Laboratoriumdiagnostiek

Sectie Parasitologie



2. Effect van behandeling

Studie	Behandeling	Follow-up (dgn)	pos NGU	Persisterend PCR pos	Waarvan Persisterende urethritis
Horner	Doxy 100mg 14 dgn	10-21	14	7	7
Johannison	Tetra2x500mg 10dgn	>21	13	8	6
Gambini	Azithro 1g	14	17	3	3
Maeda	Levo 3x100mg 14 dgn	14	12	8	1+5
Falk	Azithro 500mg dg 1 daarna 1 x 250mg 4dgn	28-35	8	0	-



Stichting Kwaliteitsbewaking
Medische Laboratoriumdiagnostiek

3. Overdraagbaar?

- 14 *C. trachomatis* pos ♂ → 6 ook pos bij partner
- 12 *M. genitalium* pos ♂ → 7 ook pos bij partner

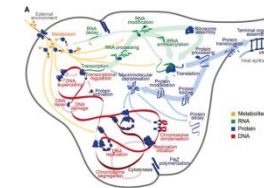
Kenmerken SOA:

- Seksueel overdraagbaar: ja
- Vaak aanleiding tot klachten/ziekte verschijnselen: ja
- Klachten verdwijnen na adequate behandeling: ja
- urethritis bij ♂: ja



MMB Rijnstate

	prevalentie vrouwen SOA (%)	totaal positief CWZ (%)
<i>Chlamydia trachomatis</i>	6	9.2
<i>Mycoplasma genitalium</i>	2.9	3.6
<i>Trichomonas vaginalis</i>	1.1	0.4
<i>Neisseria gonorrhoeae</i>	0.7	1.1



Macrolide-Resistant *Mycoplasma genitalium* in Southeastern Region of the Netherlands, 2014–2017

Liesbeth Martens, Sharon Kuster, Wilco de Vos, Maikel Kersten, Hanneke Berkhout, Ferry Hagen

Mycoplasma genitalium infections of the urogenital tract are usually treated with azithromycin; however, for the past several years, rates of azithromycin treatment failure have increased. To document the occurrence and frequency of macrolide resistance–mediating mutations (MRMMs) in *M. genitalium* infections, we collected 894 *M. genitalium*–positive samples during April 2014–December 2017 and retrospectively tested them for MRMMs. We designated 67 samples collected within 6 weeks after a positive result as test-of-cure samples; of these, 60 were MRMM positive. Among the remaining 827 samples, the rate of MRMM positivity rose from 22.7% in 2014 and 22.3% in 2015 to 44.4% in 2016 but decreased to 39.7% in 2017. Because of these high rates of MRMMs in *M. genitalium* infections, we recommend that clinicians perform tests of cure after treatment and that researchers further explore the clinical consequences of this infection.

azithromycin treatment failure has been reported with increasing frequency (8). Clinical cure rates reported before 2008 were generally >80% (9–11) but more recently have dropped to as low as 54% (12,13). A single dose of azithromycin is the preferred treatment for nongonococcal urethritis in many countries, including Australia (14), the Netherlands (15), the United States (16), and the United Kingdom (17). Moreover, *Chlamydia trachomatis* infections are also commonly treated with a single dose of azithromycin, often without excluding co-infection with *M. genitalium* (14–17). However, it has been suggested that the single-dose regimen of azithromycin is actually facilitating the development of macrolide resistance (18,19).

In the Netherlands, routine testing for *M. genitalium* is not included in national sexually transmitted disease (STD) screening protocols (15,20,21). In a recent revision



Stichting Kwaliteitsbewaking
Medische Laboratoriumdiagnostiek

Sectie Parasitologie

Mycoplasma genitalium: resistentie

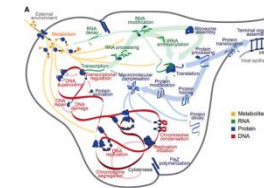
Table 1. Prevalence of macrolide resistance in the four individual laboratories

	CWZ	Maasstad	PAMM	Rijnstate
% samples with resistance-associated mutations	14.3	32.8	24.5	21.7
% samples with a wild-type 23S rRNA	85.7	67.2	75.5	78.3

2014 – 2015

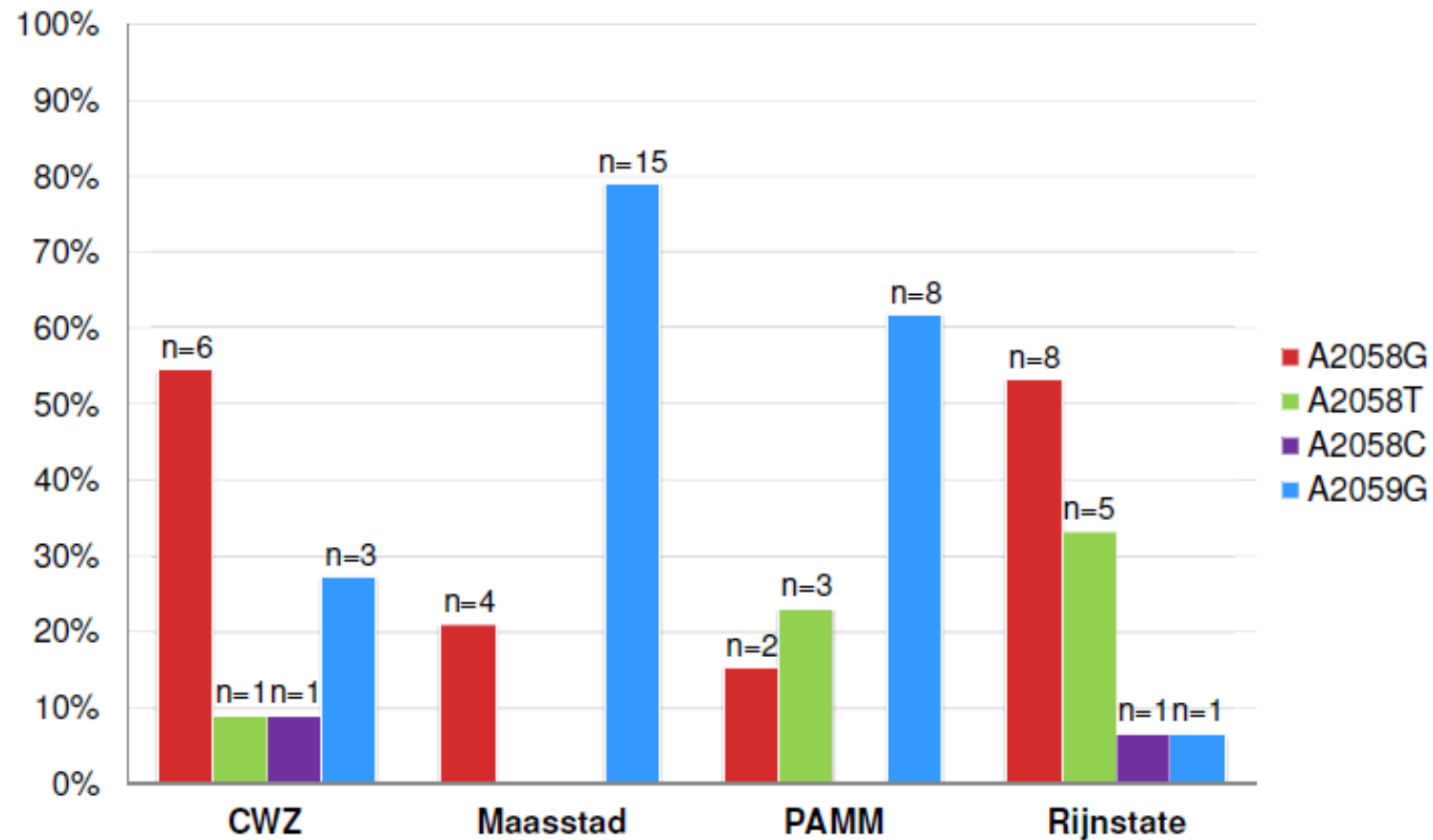
SOA-aanvragen urine en urogenitaal
niet recent SOA-positief

257 positieve MG-monsters



Mycoplasma genitalium: resistentie

Figure 3. Frequency of the different macrolide resistance-associated mutations in each laboratory



- Prevalentie geschat op 1-2%
- Huisartsenmateriaal: 4,5% positief
- SOA-centra (Amsterdam en Den Haag): 14%
- Hiervan 20% bij MSM, 8% bij MSW en 12% bij vrouwen



Prevalentiestudies in Nederland:

- Hoog-risico mannen met NGU (GGD Amsterdam): 11%
- Laag-risico mannen met NGU (huisarts): 8%
- Asymptomatische patiënten (huisarts): 2,7% / 3,2%
- SOA screening door huisarts (Amersfoort): 4.3%

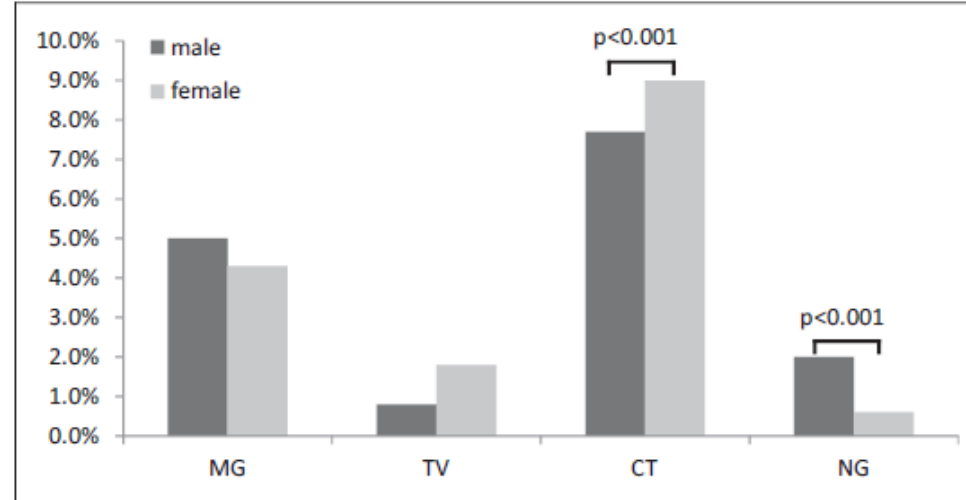


Figure 1. Percentage of male and female patients per target in the STI screening.
MG: *Mycoplasma genitalium*; TV: *Trichomonas vaginalis*; CT: *Chlamydia trachomatis*; NG: *Neisseria gonorrhoea*.

- Besmettingskans: 40-50% van partners positief
- Overdracht via seksueel contact
- Incubatietijd waarschijnlijk 1-8 weken
- Naar schatting 5% urethritis van MG positieve mannen
- Bij meerderheid van asymptomatische vrouwen lijkt *Mycoplasma genitalium* binnen een jaar verdwenen
- Geen associatie met infertiliteit aangetoond



- Overweeg test op MG bij persisterende urethritis > 4 weken na uitsluiting GO en chlamydia
- Eerstestraals urine bij man
- Vaginale (self)swab bij vrouw
- Resistentie geen gangbare diagnostiek



- *Mycoplasma genitalium* is SOA
- Hogere frequentie van voorkomen dan GO en Trichomonas
- Diagnostiekmogelijkheden nodig

