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Objectives

The aim of the study is to determine and compare the prevalence rates of *Trichomonas vaginalis* (TV) and *Mycoplasma genitalium* (MG) in a population with high-risk sexual behaviour compared to a diseased control group with abnormal Pap smear.

Methods

1146 patients over a time period of two years were enrolled (October 2011- 2013) in this study. TV and MG infection were simultaneously detected by a new validated in-house multiplex real-time PCR. The target for detection of TV was an 83-bp region of a repeated conservative sequence of 2 kb of the TV genome (GenBank accession No. L23861) [1]. The target for detection of MG was a 78-bp region in the MgPa operon sequence (GenBank accession No. M31431) [2].

Results (1)

Age group	No. of investigated women		No. of positive TV infection		Prevalence rate of TV in the respective age group		No. of positive MG infection		Prevalence rate of MG in the respective age group	
	High-risk	Control	High-risk	Control	High-risk	Control	High-risk	Control	High-risk	Control
< 20	62 (18.3%)	31(3.3%)	1	2	1.6%	6.5%	3	1	4.8%	3.2%
20-29	148 (43.8%)	287 (30.6%)	3	3	2.0%	1.0%	6	8	4.0%	2.8%
30-39	69 (20.4%)	250 (26.6%)	6	6	8.7%	2.4%	1	3	1.4%	1.2%
40-49	42 (12.4%)	202 (21.5%)	1	3	2.4%	1.5%	0	2	0%	1.0%
≥ 50	17 (5.0%)	168 (17.9%)	0	2	0%	1.2%	0	1	0%	0.6%
Overall: Median age 25 (range 15-64)	338	938	11	16	3.3%	1.7%	10	15	3.0%	1.6%

Table: Prevalence of *Trichomonas vaginalis* and *Mycoplasma genitalium* in the different age groups

Results (2)

The overall prevalence rate for TV and MG in the high-risk population was 3.3% (95% CI 1.8% to 5.7%) and 3.0% (95% CI 1.6% to 5.4%) compared to 1.7% (95% CI 1.1% to 2.8%) and 1.6% (95% CI 1.0% to 2.6%) in the diseased control group.

In both cohorts we observed that MG infection rates were the highest in the younger age group. TV infections were most frequent in the age group of 30-39 years in the high-risk population (8.7%).

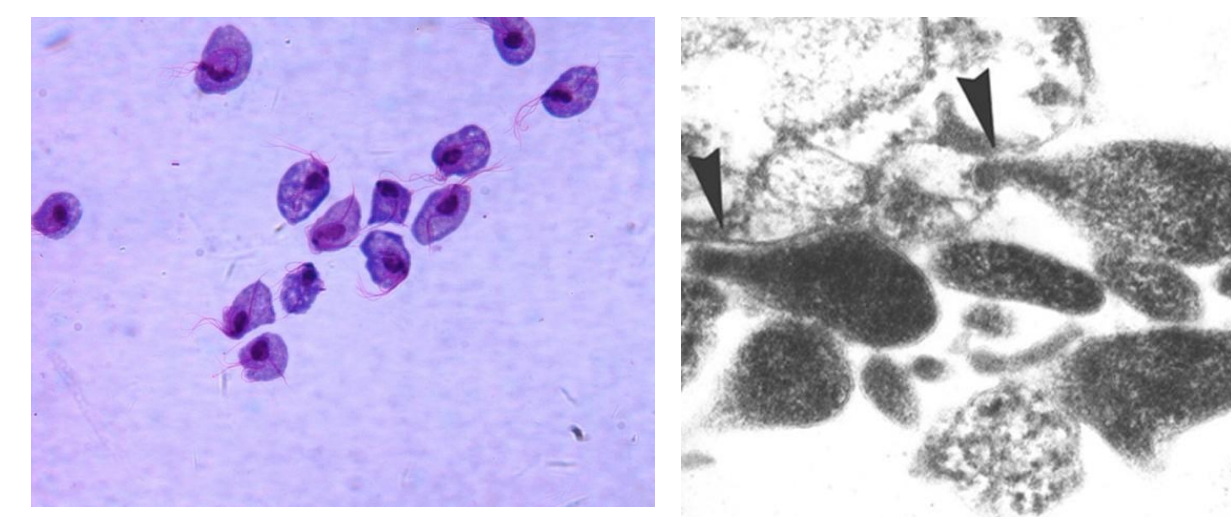


Fig: Morphology of *T. vaginalis* [3] and *M. genitalium* [4]

Conclusion

As expected the prevalence of TV and MG is almost 2 times higher in the high-risk group but due to the low number of samples in the high-risk group the difference is not statistically significant (TV $p= 0.12$ and MG $p= 0.17$).

We suggest that patients with an abnormal Pap smear should not only be referred for HPV genotyping but also for TV and MG DNA analysis.

As the prevalence of MG infections is about 4.3 % in the younger population at risk (<30 years) not only *Chlamydia trachomatis* should be screened.

The overall conclusion is that TV and MG are underestimated infections.

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References: [1] Schirm et al., *J. Microbiol. Methods* 2007 [2] Jensen et al., *Journal of Clinical Microbiology*, 2004 [3] www.doctorshangout.com/photo/trichomonas [4] Tidsskr Nor Lægeforen 2007.