Multicenter prevalence study of *Mycoplasma genitalium* and *Trichomonas vaginalis* by PCR on different platforms


1. Diagenode SA, Belgium  
2. Laboratoire de bactériologie, CHU Nantes, France  
3. Hôpital de la Croix-Rousse, Lyon, France  
4. PAMM Laboratory for Medical Microbiology, Veldhoven, The Netherlands  
5. Radboud University Medical Centre Nijmegen, The Netherlands  
6. Medisch Centrum Huisartsen, Leuven, Belgium  
7. Laboratoire de Microbiologie, CHR-Citadelle, Liège, Belgium

Mycoplasma genitalium (MG) is a parasitic bacterium and the causative agent of nongonococcal urethritis. Trichomonas vaginalis (TV) is an anaerobic, flagellated protozoan. It is a causative agent of trichomoniasis, and is the most common non-viral Sexually Transmitted Infection (STI) worldwide.

S-DiaMGTV™ is a qPCR kit from Diagenode allowing the qualitative detection and differentiation of *Mycoplasma genitalium* and *Trichomonas vaginalis* in clinical male and female specimens (urogenital swabs and urine).

**Introduction**

This study was conducted in order to evaluate the prevalence of MG and TV at 6 different sites area by using the S-DiaMGTV kit on different extraction and qPCR platforms, and compare it to the prevalence of CT and NG in the same population.

**Objectives**

About 3000 leftover samples that were tested with the Roche CT/NG assay in Nantes (France), Nijmegen (The Netherlands), Liège (Belgium), and Leuven (Belgium) on the Cobas4800® platform, were reanalysed with the S-DiaMGTV™ kit.

Over 1000 leftover samples that were tested with the Abbott CT/NG assay in Lyon (France) on the Abbott m2000®, were reanalysed with the S-DiaMGTV™ kit.

Approximately 500 leftover samples that were tested with the Siemens CT/NG assay in Veldhoven (The Netherlands) on the Versant kPCR molecular system, were reanalysed with the S-DiaMGTV™ kit.

The leftover extracted DNA from the CT/NG assay was recovered and used for the S-DiaMGTV™ assay.

Screened population consisted of low risk as well as higher risk population depending on the sites.

**Method**

Prevalence of the different STIs varies from site to site, depending on the study population. However, the same trend is observed through all sites: CT is the most prevalent STI, followed by MG. NG and TV are usually less prevalent than the other two. The relatively high prevalence of MG compared to NG underlines the importance of MG detection in STI screening, knowing that differentiation between STIs is essential. In addition, the high number of co-infections underlines the importance of diagnosing all 4 pathogens.

The Diagenode S-DiaMGTV™ assay on the Cobas4800® and the m2000® instruments allows for the detection of MG and TV in patients screened for CT and NG. It can easily be run downstream the CT/NG assay on the leftover DNA extracts.

**Results**

Among the 6908 samples tested, the overall prevalence was as follows:

<table>
<thead>
<tr>
<th>STI</th>
<th>CT</th>
<th>MG</th>
<th>NG</th>
<th>TV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Studies have shown that recommended treatment for CT (Single-dose azithromycin or a course of doxycycline) might not be efficient for MG treatment and induce macrolide resistance in MG. Recommended treatment for TV is metronidazole, tinidazole or ornidazole. Differentiation between STIs is therefore essential.

In addition, co-infections were observed:

- Co-infections:
  - CT/NG: 25
  - CT/TV: 6
  - MG/TV: 5
  - NG/TV: 2
  - MG/NG: 1
  - CT/NG/TV: 1
  - CT/NG/MG/TV: 1

Studies have shown that co-existing STIs increase susceptibility of acquiring and transmitting HIV by two- to five-fold. Diagnosis of co-infections is therefore important.

**Conclusions**

Prevalence of the different STIs varies from site to site, depending on the study population. However, the same trend is observed through all sites: CT is the most prevalent STI, followed by MG. NG and TV are usually less prevalent than the other two.

The high number of co-infections underlines the importance of diagnosing all 4 pathogens.

The Diagenode S-DiaMGTV™ assay on the Cobas4800® and the m2000® instruments allows for the detection of MG and TV in patients screened for CT and NG. It can easily be run downstream the CT/NG assay on the leftover DNA extracts.

**References**

3. Forna F et al., The Cochrane Collaboration 2007, issue 4

For more information, please contact us at info@diagenodediagnostics.com • www.diagenodediagnostics.com