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A primary investigation of *Mycoplasma genitalium* coinfection with *Chlamydia trachomatis* in southern Denmark

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Introduction

Chlamydia trachomatis and *Neisseria gonorrhoeae* (CT/NG) are the most common sexually transmitted bacterial infections globally. *Mycoplasma genitalium* (MG) is an emerging sexually transmitted infection with symptoms similar to those for CT and NG. The consequences of MG infection is similar to those for chlamydial infection, including non-gonococcal urethritis in male subjects and increased risk for pelvic inflammatory disease, infertility, endometritis, ectopic pregnancy and preterm birth.

MG is usually not recommended among organisms for routine sexually transmitted infections screening. Additionally, the information about coinfection of MG and CT/NG is very limited. Furthermore, the rate of macrolide resistant MG has recently increased worldwide. Therefore, there is a need to investigate coinfection of MG with CT/NG and to test MG for macrolide resistance.

Methods

Specimens analysed in this study were collected and sent for CT/NG testing by general practitioners when a patient is suspected for sexually transmitted bacterial infections. The CT/NG testing was performed using qPCR in closed system – *In vitro Diagnostic*, Cobas® 4800 CT/NG Amplification/Detection Kit. The samples were collected according to the manufacturer instructions.

147 CT positive (5 of them are CT/NG positive) urinary samples were analysed with a new multiplex quantitative PCR assay, SpeeDx Resistance Plus MG 23S assay with Cobas® z480, which stimultaneously detects MG and 5 mutations at positions 2058 and 2059 in the 23S rRNA gene, to provide information on strains resistant to macrolide-based antibiotics.

Results

Table 1. Age and gender of Mg positive patients in 147 CT positive patients

Characteristic	Number of MG positive / CT positive
Age (years)	
17-25	20* / 100
25-52	5# / 47
Gender	
Male	22 / 60
Female	3¤ / 87

* 10 patients are detected as 23S mutants.
# All patients are detected as 23S mutants.
¤ One patient is detected as 23S mutants.

Table 2. Number of Mg positive and macrolide resistant samples in 147 CT positive urinary samples

Results group	Samples
Mg positive, 23S mutant not detected	9
Mg positive, 23S mutant detected	16

- 25 samples were detected as MG positive . The coinfection of CT/MG is 17%.
- 16 of them were macrolide resistant.
- Most of CT/MG positive patients are male and only 3 are female.
- There are 2 samples with CT/NG/MG coinfections. One of them is macrolide resistant.

Conclusions

Our finding emphasises the need for routine MG testing in routine sexually transmitted infection screening and all CT positive patients.

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