

Urethritis due to Multiple Sexually-transmitted Infection Agents in a Young Male in Turkey

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Abstract

Sexually Transmitted Diseases (STDs) are caused by a large number of microorganisms mostly with *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. Data concerning the frequency of STD agents is scarce in the Islamic World including Turkey. In this report we describe a case with multiple STD agents presented with urethral discharge.

Keywords: Sexually Transmitted Infections; Urethritis; RT-PCR; Chlamydia Trachomatis; Neisseria Gonorrhoeae; Mycoplasma Hominis; Ureaplasma Urealyticum

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Case Report

Data on the frequency of agents related with STDs are limited in the Islamic World including Turkey probably due to the low admission to the clinics because of the social and cultural characteristics. Herein we report a STD case in a 23 years-old male with a two months history of purulent penile discharge and dysuria followed by a suspicious sexual intercourse a week before the onset of the symptoms. Urethral swab specimen was tested for STD by conventional culture, colorimetric test for *Mycoplasma hominis* and *Ureaplasma urealyticum* (Mycoplasma IES, Belgium) and two PCR tests, STD6 ACE detection assay (Seegene, Korea) targeted to

Chlamydia trachomatis, *Neisseria gonorrhoeae*, *Mycoplasma genitalium*, *U. urealyticum*, *M. hominis* and *Trichomonas vaginalis* and Anyplex™ II STI-7 Detection (Seegene, Korea) targeted same genes plus *U. parvum*. RPR, TPHA and FTA-abs IgM/G, anti-HCV, anti-HIV 1-2 and p24 antigen were tested. Conventional cultures and serological tests were negative. By colorimetric test only *M. hominis* was positive. *M. hominis*, *U. urealyticum*, *N. gonorrhoeae*, *C. trachomatis* were positive with PCR (Figure 1 and Figure 2). The patient was treated with levofloxacin (1x500 mg, 7 days), cefixime (400 mg/po, one dose), doxycycline (2x1, 100 mg, 7 days) with complete cure.

Accurate and rapid screening has critical role in the management of STDs. *C. trachomatis* and *N. gonorrhoeae* are commonly encountered for STDs and *M. genitalium* is in an increasing trend. *C. trachomatis* accounts for 30-40% of urethritis, half of the infected cases are asymptomatic. [1, 2] Among asymptomatic patients *C. trachomatis*, *N. gonorrhoeae*, *M. genitalium*, *U. urealyticum*, *M. hominis* and *T. vaginalis* prevalence were reported as 5.6%, 0.4%, 0.3%, 22.1%, 11.6% and 1.1% [3]. As co-infection with *C. trachomatis* and *N. gonorrhoeae* is high as 7.3-42%, patients should be tested and treated in case of any positivity simultaneously for both agents [3, 4]. Use of molecular testing should be encouraged for *Ureoplasma* and *Mycoplasma* due to the low sensitivity rates for commercial culture test kit in the view of previous studies on Anyplex™ II resulting with 100% sensitivity and high specificity compared with culture and colorimetric assays and advantage for discriminating between *U. urealyticum* and *U. parvum* [5]. As PCR and culture positivity or two different PCR assay positivity

was considered as gold standart, sensitivity and specificity of Anyplex™ II, STD6 ACE and colorimetric assay/culture in the diagnosis of *M. hominis*; were 100%, 100%, 44.7% and 99.3%, 98.9%, 99.6%, respectively and 97.8%, 100%, 44.9% and 99.3%, 99.4%, 87.9% for *U. urealyticum* and 100%, 100%, 81.5% and 99.2%, 99.7%, 100% for *N. gonorrhoeae* [5], suggesting the use of PCR *in clinically suspected cases negative with culture*. We only detect *M. hominis* with colorimetric test, but *U. ureolyticum* was also positive by PCR. In this case, *N. gonorrhoeae* was not recovered from culture but PCR positivity was observed, probably due to the delay in the transport. PCR is expected to be used as a standard diagnostic test for STDs instead of culture.

Conflict of Interest: The authors declare that there is no competing interest among authors.

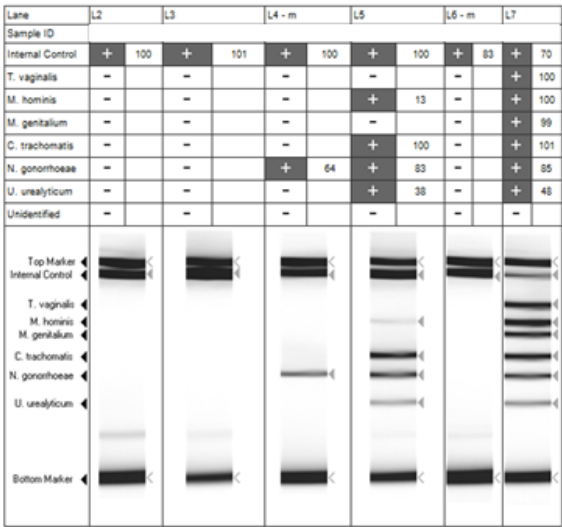


Figure 1. Multiplex PCR; Lane 2: Negative control; Lane 3: Negative sample; Lane 4: *N. gonorrhoeae* positive; Lane 5: *M. hominis*, *C. trachomatis*, *N. gonorrhoeae*, *U. urealyticum* positive; Lane 6: Negative sample; Lane 7: Positive control

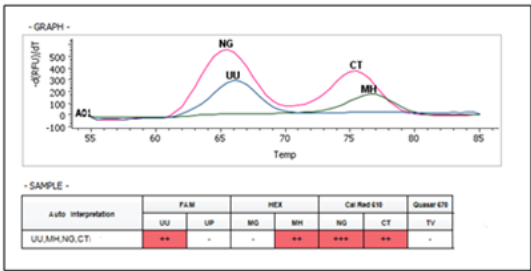


Figure 2. Real-time PCR result of the sample indicating *M. hominis*, *C. trachomatis*, *N. gonorrhoeae*, *U. urealyticum* positivity

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