



IUSTI–E Scientific Advisory Council

Topic Report 2016 *Mycoplasma genitalium*

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Advances in the field 2015-6

Much concern was focused on the increased macrolide resistance reported uniformly from all over the world. Results of reported azithromycin trials were summarised in a meta-analysis showing a decreased efficacy of the 1g dose over time (Lau *et al.*, 2015). In the Asian-Pacific region, increasing levels of moxifloxacin resistance as predicted by sequencing of the quinolone resistance determining region (QRDR) of *parC* were reported along with associated treatment failures. Often, the moxifloxacin resistant strains were simultaneously macrolide resistant leading to multidrug resistance (MDR) with very few options left for treatment. One such third or fourth-line antimicrobial is pristinamycin, which was reported to cure six of seven patients treated with 1 g x 4 for 10 days (Bissessor *et al.*, 2015).

A study aiming at determining the time to negative *M. genitalium* test during treatment collected samples 12 times over four weeks and showed that test became negative very shortly after initiation of treatment (Falk *et al.*, 2015). However, in a few patients with several negative tests after initiation of treatment with azithromycin, samples became positive with the same strain as initially, but this time it had changed the phenotype to macrolide resistant. This clearly demonstrated development of resistance during treatment and suggested that a test of cure should not be performed before 3-4 weeks after initiation of treatment. On the other hand, if a patient experiences symptoms and is retested >4 days after start of treatment with a positive result, the test is highly likely to reflect treatment failure.

The epidemiology of *M. genitalium* infections was studied in a large sample of specimens collected in the British NATSAL-3 study (Sonnenberg *et al.*, 2015). *M. genitalium* was found in >1% of the samples and a large proportion of both men and women were asymptomatic. However, in women post-coital bleeding was strongly associated with *M. genitalium* infection and in women aged 35-44, *M. genitalium* was more than three times more common than *C. trachomatis*.

The evidence base for the role of *M. genitalium* infections in women was updated in a very thorough meta-analysis of all relevant studies (Lis *et al.*, 2015) and odds-ratios for all outcomes were >1 and almost all were significantly associated. This was contributing to the inclusion of a chapter on *M. genitalium* in the 2015 US CDC STD treatment guidelines (Workowski & Bolan, 2015).

5 Most Important Recent Publications

See above (except the US CDC STD treatment guidelines)

Potential Speakers

Pat Sonnenberg on epidemiology

Cécile Bébéar or Sabine Pereyre on antimicrobial resistance in mycoplasmas

Catriona Bradshaw on the experience with treatment of MDR *M. genitalium*

Lisa Manhart on updated meta-analyses of disease associations

Questions to be answered by future Research

How widespread is macrolide and fluoroquinolone resistance in Europe: Preferably measured in comparable populations

Which new, or old forgotten, antimicrobials can be used to treat multidrug resistant *M. genitalium* infections.

Will the availability of high-throughput assays such as the Hologic Aptima change the diagnostic routine

What will be the role of new NAATs combining detection and resistance testing

How important is *M. genitalium* in PID and infertility

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