

M. genitalium macrolide and fluoroquinolone resistance in Ce.Mu.S.S. Cohort: a descriptive monocentric report

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Introduction/Summary

Mycoplasma genitalium is a common cause of non-chlamydial non-gonococcal urethritis (20-25%) in males and cervicitis in females. It determines 40% of persistent or recurrent urethritis in men and increases PID and/or perinatal complications risk in women. It may play a role in proctitis, specially in MSM. NAAT for *M. genitalium* is the gold standard for diagnosis. *M. genitalium* antibiotic susceptibility is limited, with macrolide and fluoroquinolones recognised as main active agents. *M. genitalium* antimicrobial resistance worldwide increase represents a concern due to the scarcity of therapeutical options left. Limited data are available in Italy on *M. genitalium* antibiotic resistance rate.

Methods

At the Sexual Health Clinic in Torino (Ce.Mu.S.S.), *M. genitalium* NAAT is performed in case of non-chlamydial non-gonococcal urethritis, cervicitis, proctitis and among patients who report sexual contact with confirmed *M. genitalium* cases. From 26/04/2023, in case of *M. genitalium* NAAT positivity, macrolide and fluoroquinolones susceptibility testing with real-time PCR techniques detecting specific single gene resistance-associated mutations is performed on the same specimen. We retrospectively collected and analysed the results of the resistance testing performed from the 26/04/2023 to 27/03/2024.

Conclusion

Our cohort shows non negligible macrolide and fluoroquinolones resistance rates (39.9% and 19.3% respectively). In 18.8% of cases resistance to both agents was detected, arising remarkable concerns about antimicrobial regimen choice due to the scarcity of evidencies available for minocycline therapy and the unavailability of pristinamycine, which is not registered in Italy. Furthermore, the unavailability of antibiotic susceptibility testing in most clinical settings entails the empirical choice of the antimicrobial regimen prescribed; *M. genitalium* antimicrobial resistance data in Italy are lacking, and more evidencies on antibiotic resistance rate are needed to drive clinicians decisionmaking.

References

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Results

During the study period 140 NAATs for *M. genitalium* tested positive. Specimen tested were 67% first void urine (94/140), 17% vaginal swab (24/140), 13% anal swab (18/140), 3% urethral swab (4/140) (Fig. 1).

Results of 2

Macrolide resistance was positive in 39.3% (55/140) of specimens, undetermined in 25.7% (36/140). Fluoroquinolone resistance was positive in 19.3% (27/140), undetermined in 20.7% (29/140), not tested in 1.4% (2/140) specimens (Fig. 2).

Results of 3

Undetermined results excluded, 37.6% (38/101) of the specimens were sensitive both to macrolides and fluoroquinolones, 62.4% (63/101) showed resistance at least to one of the two antibiotics and 18.8% (19/101) were resistant to both agents (Fig. 3).

Results of 4

Fluoroquinolone susceptibility was preserved in 65.5% (36/55) of the macrolide-resistant specimens, while macrolide resistance was detected in 70.4% (19/27) of the fluoroquinolone resistant specimens (Fig. 4).

