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***Mycoplasma genitalium* infections in men who have sex with men: prevalence and macrolide resistance in north-east Italy**

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Background: *Mycoplasma genitalium* (MG), one of the most common bacterial pathogens of sexually transmitted infections (STIs), causes non-gonococcal urethritis in man and has been proposed as a cause of proctitis in Men who have Sex with Men (MSM).

The 2016 European guideline on MG infections recommends treatment with Azithromycin or Josamycin in uncomplicated infections. Given the increasing prevalence of macrolide resistance during the last years, Moxifloxacin is recommended as second line treatment.

We aimed to determine the proportion of MSM who had MG in the rectum and the prevalence of macrolide resistance. We compared these data with the prevalence during the previous 3 years.

Materials/methods: From February to September 2019, we retrospectively evaluated the prevalence of MG infections in 358 patients from STIs-AIDS Unit. We also evaluated the prevalence of MG during 3 years before. Anal swabs were tested for MG infection using Allplex™ MG & AziR Assay (Seegene). Test simultaneously detects MG and six 23S rRNA mutations associated with macrolide resistance: A2058C, A2058G, A2058T, A2059C, A2059G, A2059T.

Results: Overall, the prevalence of MG was 6.7% (24/358). All positive-MG patients (median age 41 years) did not present symptoms. During 2014-2016 the prevalence was respectively 12.4% (14/113), 17.0% (27/159), 7.4% (23/313).

23S rRNA mutations were reported in 25.0% (6/24) of strains: A2059G substitution accounted for 66.7% (4/6), A2058C for 33.3% (2/6). Of six resistant-MG patients, five had been treated with Azithromycin for STIs before.

Conclusions: To date, there is no data about prevalence of macrolide-resistant MG in Italy. We report a high presence of MG, decreasing over the years, and resistant strains. Our selected patients may be particularly vulnerable to acquire and transmit MG due to their higher risk of STIs and previous macrolide therapy. Given the 25% of resistance, Azithromycin should not be longer considered a first choice for empirical therapy in our selected population.

Therefore, our findings support the routine use of an assay to detect MG and macrolide resistance-associated mutations, as recommended in the European guideline. This will help to limit inappropriate azithromycin treatment and to control antimicrobial resistance progression.

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