

Mycoplasma genitalium resistance against macrolide antibiotics in the Berlin MSM cohort tested with the Allplex MG & AziR Assay

Robert Ehret, Stefan Breuer and Martin Obermeier

MIB Medizinisches Infektiologiezentrum Berlin,
Contact: Ehret@mvz-mib.de

BACKGROUND

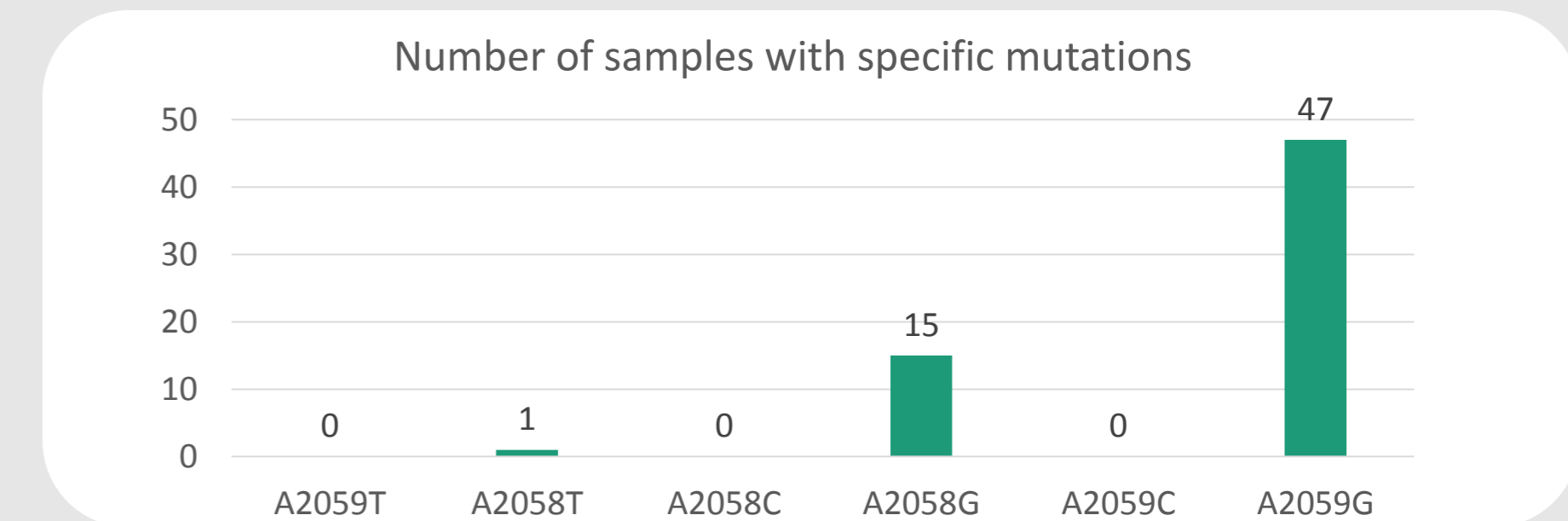
Due to the high rate of sexual transmitted infections (STI) reported in the Berlin MSM-cohort there is a rise in awareness and in testing. *Mycoplasma genitalium* (MG) is one of the important causes of non-gonococcal urethritis and emerging macrolide resistance is a major concern. A standardized realtime-PCR test is the favoured method for this hard to culture bacterium in routine diagnostics. We tested here the Allplex MG & AziR Assay on MG positive samples.

METHODS

Screening MSM for MG from mainly urethral and anal swabs or urine was performed in October/November 2018 with the Hologic Panther system (Aptima Mycoplasma genitalium Assay target capture and isothermal amplification TMA). Total nucleic acid extraction from left-over material from 115 MG positive samples was done with the Abbott M2000sp system (magnetic beads isolation), followed by testing for macrolide resistance with the Allplex™ MG & AziR Assay in a RUO version (rtPCR, biorad CFX96 thermocycler). This test detects and differentiates the SNP mutations A2058C/G/T and A2059C/G/T of the 23S rRNA gene region V of MG.

RESULTS

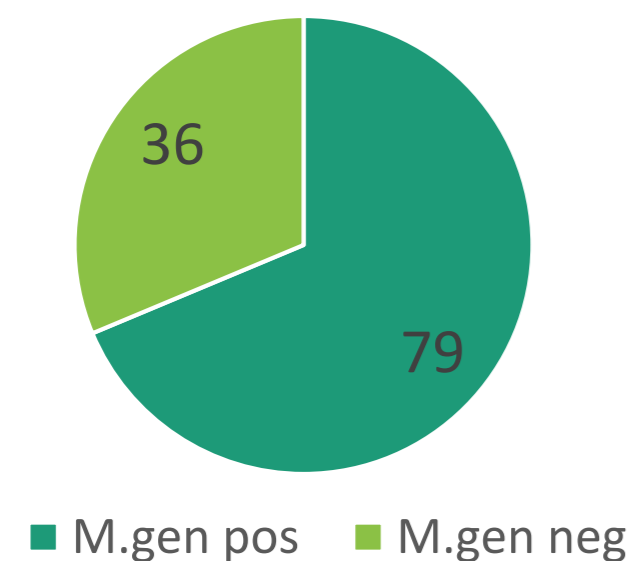
68.7% (N=79) of MG positive screened samples were also positive in the Allplex™ MG & AziR Assay. In a very high proportion of these samples 79,7% (N=63) resistance mutations could be detected. A2059G was the mutation detected with the highest frequency (74.6%; N=47) followed by A2058G (23.8%; N=15). One sample had an A2058T mutation. No sample showed an A2058C or A2059C/T mutation.



CONCLUSIONS

As expected not all of the samples tested positive with the Aptima assay could be tested positive with the Allplex assay due to the known very high sensitivity of the TMA test. The high rate of resistant *M. genitalium* detected in this cohort proves the necessity of resistance testing to efficiently provide an effective therapy. 74.6% of resistant samples showed the A2059G mutation leading to resistance against Azithromycin and Josamycin. As access to Pristinamycin is limited in Germany the usual second line option is Moxifloxacin despite increasing numbers of reported clinical resistance. Resistance testing guided therapy is crucial for sufficient treatment success and addition of molecular resistance testing against Fluoroquinolones is an additional requirement.

Mycoplasma genitalium positive confirmed samples in Allplex



Samples with resistance mutations

