

# EFFICACY AND TOLERABILITY OF RESISTANCE GUIDED SEQUENTIAL ANTIMICROBIAL THERAPY WITH MOXIFLOXACIN FOR THE TREATMENT OF *MYCOPLASMA GENITALIUM* INFECTION

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**Background:** Macrolide-resistance in *Mycoplasma genitalium* (MG) exceeds 50% in many nations and increasing quinolone-resistance is reported. Recent data showed resistance guided therapy (RGT) using doxycycline then sitafloxacin for macrolide-resistant MG achieved 92% cure and doxycycline-azithromycin for macrolide-susceptible MG cured 95%. We now present data on RGT using moxifloxacin, the fluoroquinolone recommended in the international guidelines, and extend the data on the efficacy of 2.5g azithromycin and selected macrolide-resistance.

**Methods:** Patients attending Melbourne Sexual Health Centre between April 2017-June 2018 with urethritis, cervicitis or proctitis were first treated with doxycycline (100mg BD, 7 days) and recalled if positive for MG. Macrolide-susceptible cases received azithromycin (1g, then 500mg daily, 3 days) and resistant cases received moxifloxacin (400 mg daily, 7 days). Patients attended for test of cure (TOC) following treatment. Adherence and side effects were recorded. Patients were included in the efficacy analysis if they were treated in accordance with RGT protocol, not at high risk of reinfection and had a 14-90 day TOC.

**Results:** 383 patients (81 female/106 heterosexual male/196 MSM) were included: 109 (28.5%) had macrolide-susceptible MG and 274 (71.5%) had macrolide-resistant MG. Doxycycline-azithromycin cure was 95.4% (95%CI 89.7-98.0) and doxycycline-moxifloxacin cure was 92.0% (88.1-94.6). Selected macrolide resistance was  $\leq 4.6\%$  (2.0-10.3). Combining doxycycline-azithromycin data with our prior RGT study (n=186) yielded a pooled cure estimate of 95.7% (91.6-97.8). Quinolone-resistance (ParC) mutations were present in 20.7% of macrolide-resistant cases prior to treatment (15.7-26.9).

**Conclusion:** RGT with moxifloxacin achieved a high cure (92.0%), despite a high baseline prevalence (20.7%) of ParC mutations, and did not differ to that observed in our prior study using sitafloxacin. Sequencing 2.5g azithromycin following doxycycline for macrolide-susceptible MG consistently achieves high cure (95%) and low levels of selected resistance. These data suggest preceding use of doxycycline may improve cure through reduction in pre-treatment load.

**Disclosure of Interest Statement:** Melbourne Sexual Health Centre and the Royal Women's Hospital have received institutional funding from Speedx Pty Ltd to

support research assistant salary while undertaking investigator-initiated studies on  
*M.Genitalium*