persistent NGU caused by Mg may not respond to repeat azithromycin treatment; quinolones, in particular moxifloxacin, have been shown to be effective. The molecular epidemiology of mutations in macrolide- and quinolone-resistance determining regions (RDRs) of 23S rRNA, parC and gyrA genes remains unclear in China.

Methods From April 2011 to August 2015, male subjects with clinical and microscopic evidence of urethritis provided a first-voided urine specimen and the mmpA gene was partially amplified and sequenced to diagnose Mg infection. RDRs of the 23s rRNA, parC and gyrA genes were sequenced.

Results Among 1816 male-patients, the overall prevalence of *M. genitalium* was 19.7% (358/1816). *N. gonorrhoeae* prevalence was 46.6% (847/1816). Among 969 NGU-cases, prevalence of: *C. trachomatis* was 42.3% (409/968), *M. genitalium* 27.9% (271/969), *U. urealyticum* 21.3% (182/856), *T. vaginalis* 1.8% (17/969) and *M. hominis* 0.7% (6/855). Based on data available from partial (5.4%) sequencing of the MgPa gene (mmpA) an evolutionary tree was constructed that divided the 358 Mg mmpA sequences into five major clusters. Among 358 Mg positive samples, successful sequencing was accomplished for: the 23s rRNA gene (341 specimens), the parC gene (344 specimens) and the gyrA gene (339 specimens). 88.9% (303/341) had mutations in 23s rRNA, 89.5% (308/344) had sense mutations in parC, and 12.4% (42/339) had sense mutations in gyrA. The most common single base pair mutation in the 23s rRNA gene was A2059G (211/303; 69.6%) followed by A2058G (60/303; 19.8%) and A2059T (30/303; 9.9%). The most common mutation in the parC gene was G248T (289/344; 84%) and in the gyrA gene G285A (22/339, 6.5%).

Conclusion The high mutation rate in 23s rRNA and parC in Mg strains in Nanjing are a harbinger of resistance to macrolides and quinolones that may follow. Molecular surveillance of indigenous strains of Mg is warranted to anticipate the development of antimicrobial resistance.

LB1.4

IMPROVED OUTCOMES FOLLOWING RESISTANCE-GUIDED TREATMENT OF MYCOPLASMA GENITALIUM INFECTION

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10.1136/sextrans-2017-053264.105

Introduction Resistance to 1st (azithromycin) and 2nd line (moxifloxacin) therapy in *Mycoplasma genitalium* (MG) now exceeds 50% and 15%, respectively, in the Asia-Pacific region. New approaches to achieve high levels of cure and minimise resistance are urgently needed. We evaluated a novel strategy of switching from azithromycin to doxycycline for MG-associated syndromes and using resistance-guided therapy, with sitafloxacin for macrolide-resistant infections.

Methods From July 2016 Melbourne Sexual Health Centre switched from azithromycin to doxycycline 100 mg twice daily 7 days for non-gonococcal urethritis/cervicitis/proctitis. Cases were tested for MG and macrolide-resistance mutations (MRM) by PCR (ResistancePlus MG test, SpeedX Pty Ltd). After doxycycline, MG-positive cases without MRM received 2.5g azithromycin (1g then 500 mg daily for 3 days) and MRM-positive cases received sitafloxacin 100 mg twice daily

for 7 days. Retest for microbiologic cure and standardised assessment of adherence, side-effects and post-diagnosis sexual contact occurred 14–90 days after the second antibiotic. Those reporting condomless sex or sex with an incompletely treated partner were excluded.

Results Of 162 evaluable MG infections (35 women, 42 heterosexual men, 85 homosexual men, median age 29) diagnosed to 9 March 2017, MRM were detected in 116 [71.6% (95% confidence interval (CI) 64.0–78.4)]. Microbiologic cure occurred in: 44 of 46 infections without MRM, treated with doxycycline then azithromycin [95.7% (95%CI 85.2–99.5)] and in 107 of 116 infections with MRM treated with doxycycline then sitafloxacin [92.2% (95%CI 85.8–96.4)]. Mean fall in log₁₀ bacterial load (on doxycycline prior to the 2nd antibiotic, n=17) was 2.9, p<0.01. Sitafloxacin was associated with diarrhoea (8.6%) and tendon/joint pain (6.0%). Five (3.1%) patients missed >20% of doses of any antibiotic.

Conclusion Switching from azithromycin to doxycycline for presumptive treatment of STI syndromes, and use of resistance-guided therapy cured >92% of MG infections in the context of high levels of antimicrobial resistance.

LB1.5

THE EFFICACY AND SAFETY OF GENTAMICIN FOR THE TREATMENT OF GENITAL, PHARYNGEAL AND RECTAL GONORRHOEA: A RANDOMISED CONTROLLED TRIAL

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10.1136/sextrans-2017-053264.106

Introduction Gentamicin is effective against *N. gonorrhoeae* *in vitro* and systematic reviews have reported cure rates of 62%–98% but the quality of studies was low and there are few data on pharyngeal or rectal infections. A recent large non comparative trial reported a cure rate of 100% when gentamicin was combined with 2g oral azithromycin, but a high incidence of gastrointestinal adverse effects limited tolerability and few extra-genital infections were included. The aim of this study was to evaluate the efficacy and safety of gentamicin versus ceftriaxone, each combined with 1g of azithromycin, for the treatment of gonorrhoea.

Methods A multi-centre, blinded, randomised controlled trial in participants with genital, pharyngeal or rectal gonorrhoea who received either gentamicin 240 mg or ceftriaxone 500 mg (each as a single intramuscular injection). The diagnosis of gonorrhoea was based on a positive nucleic acid amplification test (NAAT) or gram stained smear on microscopy. The primary endpoint was microbiological cure based on NAAT two weeks after treatment. The trial had 90% power to detect non-inferiority with a lower CI for an absolute risk difference of 5%. Data collection was completed in March 2017.

Results 720 patients from 14 sexual health clinics in England were randomised to receive ceftriaxone (n=362) or gentamicin (n=358). Baseline characteristics of the two groups were well balanced. 306 participants randomised to ceftriaxone (85%) and 292 randomised to gentamicin (82%) had primary outcome data available. 98% (299/306) and 91% (267/292) of participants randomised respectively had clearance of