

EVALUATION OF A CIPROFLOXACIN GYRA ASSAY FOR RESISTANCE-GUIDED THERAPY FOR NEISSERIA GONORRHEA

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Background:

Resistance-guided treatment has the potential to expand treatment options for *N. gonorrhoeae* (NG) and may be useful as an antimicrobial stewardship strategy. In an ongoing clinical study, we are evaluating the utility of the *Speedx ResistancePlus* assay, which detects the gyrA S91 (wild type) and gyrA S91F (mutant) markers of ciprofloxacin susceptibility and resistance.

Methods:

The study offers enrollment to all patients undergoing routine asymptomatic sexually transmitted infection (STI) testing at a sexual health clinic in Seattle, WA, USA. Specimens that test positive for NG are then tested for the gyrA mutation. The study offers patients with gyrA wild type NG treatment with a single 500mg oral dose of ciprofloxacin and treats participants with the gyrA s91 mutation with intramuscular ceftriaxone. All NG positive participants are asked to return to the clinic for a test of cure visit (NAAT and culture) 14 days (+/-2) following treatment.

Results:

Enrollment began in March 2022, was paused in June 2022 due to the mpox epidemic, resumed in March 2023, and is currently ongoing. As of January 31st, 2024, a total of 771 participants were enrolled, 41 (5.3%) of whom tested positive for NG. Seventeen (41%) of 41 participants with NG had gyrA wild type, 15 (37%) had gyrA s91 mutation, and 9 were indeterminant (22%). Fifteen (88%) of the 17 participants with gyrA wild type were treated with ciprofloxacin. All participants treated with ciprofloxacin had negative tests of cure. Mean time to reflexed gyrA test result was 3.6 working days (SD=1.2 days), including participants with indeterminant gyrA results requiring repeat testing.

Conclusion:

An assay that detects the gyrA mutation conferring quinolone resistance allowed 37% of patients with NG to be successfully treated with ciprofloxacin. The gyrA reflex testing added ~1.6 working days to results reporting.

Disclosure of Interest Statement: