009.3 GONOCOCCAL PHARYNGEAL SUSCEPTIBILITY TO CEFTRIAXONE, CEFIXIME AND AZITHROMYCIN AMONG MEN AND WOMEN IN EGISP, 2018 – 2020

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Background Most gonorrhea treatment failures on ceftriaxone-based regimens, the foundation of current treatment recommendations, have been associated with pharyngeal infections; however, antimicrobial susceptibility data for pharyngeal infections are limited. We present preliminary pharyngeal susceptibility data collected through a U.S. sentinel surveillance project.

Methods The enhanced Gonococcal Isolate Surveillance Project (eGISP) collects gonococcal isolates from male and female genital and extragenital sites. Samples are collected for culture from symptomatic and/or exposed patients at participating STD clinics. Gonococcal isolates undergo antimicrobial susceptibility testing by agar dilution with results reported as minimum inhibitory concentrations (MIC). Since eGISP began, 13 clinical sites across the U.S. have participated in eGISP.

Results During 2018–2020, 628 pharyngeal isolates were collected in eGISP among men who have sex with men (MSM) (n=370; 59%), men who have sex with women only (MSW) (n=142; 23%) and women (n=116; 18%). Two isolates displayed reduced susceptibility to ceftriaxone (MIC ≥ 0.125 $\mu\text{g/mL}$), an overall point prevalence of 0.3%; both isolates were among MSM. One isolate in an MSM displayed reduced susceptibility to cefixime (MIC ≥ 0.25 $\mu\text{g/mL}$), a prevalence of 0.2% overall. The prevalence of reduced susceptibility to azithromycin (MIC ≥ 2.0 $\mu\text{g/mL}$) was 8.0% overall (8.4% MSM, 8.5% MSW, 6.0% women). Similar patterns were seen among the 3898 urogenital isolates collected; overall prevalence of reduced susceptibility for ceftriaxone was 0.1% (0% MSM, 0.1% MSW, 0.4% women), for cefixime was 0.3% (0.4% MSM, 0.3% MSW, 0% women), and for azithromycin was 6.4% (8.8% MSM, 5.3% MSW, 3.4% women).

Conclusion Based on sentinel surveillance in multiple U.S. cities, the prevalence of pharyngeal reduced susceptibility to cephalosporins appears low; however, prevalence of reduced susceptibility to azithromycin was high among MSM, MSW, and women. As many pharyngeal gonococcal infections are asymptomatic, monitoring susceptibility patterns at this anatomic site can support public health action to ensure effective treatment.

009.4 CHANGES IN GONOCOCCAL INCIDENCE, SCREENING, AND REPORTING AS EXPLANATIONS FOR INCREASED GONOCOCCAL CASE REPORTS BETWEEN 2008 AND 2018, UNITED STATES

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Background Though gonococcal case reports are related to incidence, case report increases may not necessarily indicate incidence increases. This results from incidence also being related to testing, reporting, and gonococcal natural history.

In this work, we estimate the levels of change necessary in gonococcal incidence, testing, and reporting to explain changes in case reports between 2008 and 2018 in the United States.

Methods We applied a recently published mathematical model that relates gonococcal incidence to natural history (natural clearance rate, symptomatic probability), testing (background screening and symptomatic treatment seeking), and reporting (percent of diagnosed infections reported to CDC). We assumed natural history parameters did not change between 2008–2018. Using the closed form mathematical modeling solution for incidence, we determined what change in incidence, testing, and reporting was necessary to explain the observed changes in case reports.

Results Assuming no changes in the determinants of incidence between 2008–2018, 2018 estimated incidence was 1.2–3 times higher than 2008 incidence (depending on age and sex), except in 15–19-year-old women, where it was 15% higher in 2008. Changes in background screening could explain the increases if 2008 screening in women was substantially lower (8–20% of 2018 values, depending on age); in men, even with zero assumed 2008 screening, this alone was unable to explain these increases. For symptomatic treatment seeking, 2008 levels would need to be 5–60% of 2018 values, depending on age and sex. For case reporting, 2008 levels would need to be 30–85% of 2018 values.

Conclusions Between 2008–2018, assuming no changes in testing or reporting, estimated gonococcal incidence increased, most apparently in 25–39-year-olds. Changes in testing and reporting necessary to explain these increases seem unrealistic (e.g., less than half of 2008 diagnosed gonorrhea being reported). Thus, these increased estimates likely reflect some true increase in gonococcal incidence, particularly in older age groups.

009.5 CHARACTERISTICS OF PEOPLE WITH GONORRHEA WITH REDUCED AZITHROMYCIN ANTIMICROBIAL SUSCEPTIBILITY IN 8 JURISDICTIONS IN THE UNITED STATES, 2018–2019

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Background In the USA, reduced azithromycin susceptibility (AZM-RS) gonococci have been observed in men who have sex with men (MSM), women, and men who have sex with women only (MSW). However AZM-RS prevalence and epidemiological characteristics among women and MSW are not well-described. We examined epidemiological characteristics of MSM and a combined group of women and MSW with susceptible and AZM-RS gonorrhea to investigate differences between groups.

Methods We analyzed epidemiological and susceptibility data from people attending STD and community clinics in eight jurisdictions participating in CDC's Strengthening U.S. Response to Resistant Gonorrhea project during 2018–2019.