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Public Health
Seattle & King County

Health Advisory – Update – CDC Recommendations for Diagnosing and Managing *Shigella* Strains with Possible Reduced Susceptibility to Ciprofloxacin, 11 June 2018

Action requested:

- **Be aware that the CDC continues to identify an increasing number of *Shigella* isolates that harbor one or more resistance mechanisms but test within the susceptible range for the fluoroquinolone antibiotic ciprofloxacin (minimum inhibitory concentration [MIC] values of 0.12-1 µg/mL).**
- **Order stool culture and antimicrobial susceptibility testing for patients suspected of having a *Shigella* infection. Culture-independent diagnostic testing does not provide an isolate and therefore cannot be used to assess susceptibility.**
- **When antimicrobial susceptibility testing is performed by broth microdilution, request Ciprofloxacin testing that includes dilutions of 0.12 µg/mL or lower.**
- **Remain vigilant for potential clinical failures with fluoroquinolone treatment of *Shigella* infections, and if antibiotic treatment is necessary, monitor patients carefully.**
- **For Shigella infections with possible fluoroquinolone or azithromycin treatment failure:**
    - **Consider consulting an infectious disease specialist to identify other treatment options, because some *Shigella* isolates with susceptible ciprofloxacin MICs may harbor one or more quinolone resistance mechanisms.**
    - **Call Public Health (206-296-4774) to report treatment failure information.**
    - **Request that your laboratory expedite submission of the *Shigella* isolate to the Washington State Public Health Laboratory.**
- **Do not routinely prescribe antibiotic therapy for *Shigella* infection. Instead, reserve antibiotic therapy for patients for whom it is clinically indicated.**

Background:
In April 2017, CDC identified an increase in the percentage of *Shigella* isolates in the United States with MIC values of 0.12–1 µg/mL for the fluoroquinolone antibiotic ciprofloxacin; this percentage continues to rise. Testing of 2017 surveillance isolates is ongoing. Among those tested, 16.5% have a ciprofloxacin MIC in the 0.12–1 µg/mL range, and 22.1% have reduced susceptibility to azithromycin. Molecular data indicate that most *Shigella* isolates with ciprofloxacin MICs in the noted range harbor at least one quinolone resistance mechanism. CDC remains concerned about potential clinical failures with fluoroquinolone treatment. CDC has also identified an increasing number of *Shigella* isolates with azithromycin MICs that exceed the epidemiological cutoff value (ECV), and is requesting reports of any possible treatment failures occurring among patients with *Shigella* infections treated with azithromycin. CDC is particularly concerned about people who are at high risk for multidrug-resistant *Shigella* infections and are more likely to require antibiotic treatment, such as men who have sex with men, patients who are homeless, and immunocompromised patients. These patients often have more severe disease, prolonged shedding, and recurrent infections.Clinicians should carefully monitor patients with *Shigella* infections who require fluoroquinolone treatment and report any possible treatment failures. If treatment failure is suspected, clinicians should submit a stool specimen for antimicrobial susceptibility testing, and consider consulting an infectious disease specialist to identify best treatment option.

Resources:

- CDC Health Advisory: **https://emergency.cdc.gov/han/han00411.asp**
- CDC *Shigella* site: https://www.cdc.gov/shigella/
- Public Health – Seattle & King County *Shigella* info: https://kingcounty.gov/depts/health/communicable-diseases/disease-control/shigellosis.aspx