



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Mary T. Bassett, MD, MPH
Commissioner

2016 Alert #41: Increasing Antimicrobial Resistance of *Shigella* among Men Who Have Sex with Men in NYC

- ***Shigella* infections with decreased susceptibility to azithromycin are increasing among men who have sex with men (MSM) in NYC.**
- **Only certain individuals at high risk for invasive disease should receive antibiotics. Clinicians should not prescribe antibiotics to patients with *Shigella* infection unless absolutely necessary.**
- **Ampicillin and trimethoprim-sulfamethoxazole should not be used as empiric treatment for *Shigella* infections in NYC. Antimicrobial susceptibility results should guide treatment.**

Please Distribute to All Clinical Staff in Internal Medicine, Pediatrics, Infectious Diseases, Emergency Medicine, Family Medicine Staff, Gastroenterology, Infection Control and All Laboratory Staff in Microbiology. Please also share with your non-hospital based primary care colleagues.

September 6, 2016

Dear Colleagues,

Shigella isolates with decreased susceptibility to azithromycin (DSA) have been increasing in NYC. These isolates also display high levels of resistance to ampicillin and trimethoprim-sulfamethoxazole (TMP-SMX). Ciprofloxacin-resistance has also been reported among *Shigella* infections in NYC. Most individuals infected with DSA-*Shigella* deny travel outside of the United States and identify as men who have sex with men (MSM).

Cut points for determining *Shigella* susceptibility to azithromycin do not currently exist, and the clinical implications of DSA-*Shigella* infection is not currently known. However, because of high levels of resistance to ampicillin and TMP-SMX, azithromycin is often used as empiric treatment of *Shigella* infections.

Since March 2013, antimicrobial susceptibility testing to azithromycin, ampicillin, cefixime, ciprofloxacin, and TMP-SMX has been conducted on *Shigella* isolates sent to the New York City Public Health Laboratory (PHL). The proportion of DSA-*Shigella* isolates has increased from 13% (isolates tested from 2013-2015) to 30% (tested from 2015-2016) (**Table 1**). Of 129 individuals with DSA-*Shigella* infections who were interviewed during March 2013-March 2016, 110 (85%) identified as MSM. Most individuals denied international travel, suggesting their infections were acquired locally.

Because *Shigella* infections are typically self-limited, DOHMH recommends that providers not prescribe antibiotic therapy unless patients present with severe or prolonged illness, require hospitalization, or have serious underlying risk factors for systemic illness, such as HIV/AIDS or other immune-compromising conditions.

If antibiotic treatment for shigellosis is indicated, susceptibility results should guide treatment. For empiric therapy, amoxicillin-clavulanic acid, ampicillin, and TMP-SMX should be avoided due to high levels of resistance to these antibiotics. Susceptibility testing for azithromycin is not clinically available, and PHL cannot provide results for individual patients. Clinicians treating MSM should consider the rapidly increasing proportion of DSA-*Shigella* infections and monitor patients for clinical response. Azithromycin is recommended for empiric initial therapy as long as resistance testing is used to guide changes in antibiotic therapy if patients do not respond.

Table 1. Proportion of *Shigella* isolates with resistance to select antibiotics or DSA, NYC, March 22, 2013-May 31, 2015 vs. June 1, 2015-March 31, 2016

Antibiotic	March 22, 2013-May 31, 2015 N = 978	June 1, 2015-March 31, 2016 N = 336
	No. Resistant (or DSA) (%)	No. Resistant (or DSA) (%)
Azithromycin (DSA)	129 (13)	100 (30)
Ampicillin	686 (70)	197 (59)
Ciprofloxacin	29 (3)	19 (6)
Cefixime	11 (1)	4 (1)
Trimethoprim-sulfamethoxazole	556 (57)	267 (83)

To continue to monitor antimicrobial resistance among *Shigella*, DOHMH requests that all culture confirmed isolates be forwarded to PHL. Please forward cultures to:

Dr. Qinghuan Liu, Associate Director of Microbiology
Public Health Laboratory, Rm 136
455 First Ave
New York, NY 10016
(212) 447-6783

DOHMH reminds providers and laboratories to report clusters and laboratory-positive cases of shigellosis using the guidelines found at <https://www1.nyc.gov/site/doh/providers/reporting-and-services/notifiable-diseases-and-conditions-reporting-central.page>.

As always, we appreciate your continued assistance in addressing emerging public health issues in New York City.

Sincerely,

Marcelle Layton, MD

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