



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
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Commissioner

2013 ALERT # 6

Gonorrhea with Reduced Susceptibility to Cephalosporins Isolated from New York City Residents

1. - Cefixime and other oral cephalosporins are no longer recommended for treating gonorrhea.
2. - Treat gonorrhea with a combination regimen of ceftriaxone 250 mg intramuscularly PLUS EITHER azithromycin 1 g orally as a single dose OR doxycycline 100 mg orally twice daily for 7 days.
3. - Patients treated with alternative regimens should be retested with culture and nucleic acid amplification test (NAAT) 7-10 days after treatment, as should any patients with persistent symptoms.
4. - Send culture specimens to laboratories that perform antibiotic susceptibility testing and include ceftriaxone in the antibiotic panel.
5. - Notify the NYC Department of Health and Mental Hygiene of suspected treatment failures.

Dear Colleagues,

Cephalosporins are becoming less effective at killing *Neisseria gonorrhoeae* (gonorrhea, or "GC") *in vitro*, as evidenced by increasing minimum inhibitory concentrations (MIC)(1). This has been particularly true for oral cephalosporins. Cephalosporin treatment failures have occurred outside the US and can be expected in New York City in the near future.

In 2011, 1.5% of isolates collected through CDC's national Gonococcal Isolate Surveillance Project had reduced susceptibility to cefixime (MIC \geq 0.250 μ g/ml). The proportion with reduced susceptibility exceeded 6% in the Western region of the U.S. and 17% in Hawaii. Almost 4% of isolates collected from men who have sex with men had reduced susceptibility to cefixime. Though less frequent, reduced susceptibility to ceftriaxone was found in 0.4% of all isolates and 1% of isolates from men who have sex with men.

In NYC, reports of GC isolates with decreased susceptibility to cefixime increased from 0% in 2011 to 1.4% in 2012. Isolates with decreased susceptibility to ceftriaxone (MIC \geq 0.125 μ g/ml) increased from 0% to 0.4% during this same period. These isolates came almost exclusively from male patients. A similar pattern of decreased cefixime susceptibility has been observed among male patients attending Health Department STD clinics, where culture is used to screen for oropharyngeal and anorectal (extra-genital) GC.

To preserve the usefulness of cephalosporins for GC treatment, we recommend that providers follow the guidelines below to detect and aggressively manage persons with suspected cephalosporin-resistant infections.(1)

1) - **Treat GC with the latest recommended regimen** -

**Ceftriaxone 250 mg intramuscularly
PLUS either
Azithromycin 1 g orally as a single dose
or
Doxycycline 100 mg orally twice daily for 7 days**

Restrict use of alternative therapies to limited circumstances. If an intramuscular injection cannot be given, Cefixime 400mg orally as a single dose PLUS either Azithromycin 1 gram orally or Doxycycline 100 mg orally twice daily for seven days is an alternative. If patients have severe penicillin or cephalosporin allergy, Azithromycin 2 grams orally is an alternative.

Counsel patients treated for GC to abstain from sex for one week and to notify sex partners from the previous 60 days about their need for GC treatment. The Inspot website can help GC patients notify sex partners confidentially or anonymously, and connect partners to care (<http://www.inspot.org/>).

2) - **Re-test the following patients 7-10 days after treatment, via culture with antibiotic susceptibility testing and nucleic acid amplification testing (NAAT)**

- Those initially treated with an alternative regimen, even if asymptomatic
- Those with persistent symptoms, irrespective of original treatment regimen

Ideally, re-testing should include both NAAT *and* GC culture with antibiotic susceptibility testing. NAAT is more sensitive than culture. Available data suggest that a GC NAAT will be negative one week after successful treatment. Antibiotic susceptibility, however, cannot be determined using NAAT. Of note, a positive NAAT with a negative culture is assumed to indicate infection.

If treating with an alternative regimen, perform NAAT and GC culture with antibiotic susceptibility testing of infected sites either before administration of alternative treatment or after treatment as a test of cure. This is to ensure that the patient is treated with an antibiotic to which the organism is susceptible.

If symptoms persist after GC treatment, ask about interim exposures and retest for GC using both NAAT and culture for antibiotic susceptibility testing at exposed anatomic sites. Additionally, rule out other conditions with similar clinical presentations, e.g., chlamydia, herpes, and trichomonas.

Clinicians should pre-arrange access to GC culture with an antibiotic susceptibility panel that includes ceftriaxone and with MIC values reported in µg/ml (2). Additionally, several laboratories are approved to perform extra-genital NAAT testing for NYC residents. (See Resources)

3) - **Suspected GC treatment failure - definition:**

GC culture and/or NAAT remain positive ≥ 7 days after treatment with no interval sexual exposure.

Recommended management of suspected treatment failures:

- Re-test via NAAT *and* culture with antibiotic susceptibility testing from affected anatomical site(s)
- **Retreat**
 - **If patient was not treated with the recommended regimen**, retreat with Ceftriaxone 250 mg intramuscularly plus Azithromycin 2 g orally as a single dose, unless allergies preclude use of that regimen.

- **If patient was previously treated with the recommended regimen or allergies preclude use of the regimen above**, consult with a local infectious disease specialist about treatment selection, or with the STD/HIV Prevention Training Center (<http://www.nycptc.org>)
- Ensure sex partners are evaluated promptly and treated as indicated.

4) - Notify the Health Department of suspected treatment failures

Patients with suspected treatment failure and isolates with elevated ceftriaxone or cefixime MICs should be managed in consultation with the Health Department, as neither the clinical significance of these MIC values nor the actual MIC breakpoints that correspond to clinical resistance have been established.

To report suspected treatment failures contact Julie Schillinger at jschilli@health.nyc.gov or call the Provider Access Line: 866-NYC-DOH1 [(866) 692-3641].

Sincerely,

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References

¹Centers for Disease Control and Prevention. Update to CDC's *Sexually Transmitted Diseases Treatment Guidelines, 2010*: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections. MMWR 2012;61:590-594.

²New York City Department of Health and Mental Hygiene. Health Alert #1, 2012: *Neisseria gonorrhoeae* isolates with reduced susceptibility to cephalosporins. February 13, 2012.

Resources:

NY State approved laboratories for anorectal or oropharyngeal GC NAAT testing
<http://www.nyc.gov/html/doh/downloads/pdf/std/nys-lab-gc-naat-testing.pdf>

For routine GC screening recommendations:
http://nnptc.org/wp-content/uploads/FINAL-STI-Screening-1_2012.pdf

For free and confidential management of partners, NYC DOHMH STD Clinics - clinic locations, hours, and directions can be found via 3-1-1 or at
<http://www.nyc.gov/html/doh/html/living/std-clinics.shtml>

For assistance with partner notification and connecting partners with care
<http://www.inspot.org/>

For provider training in the diagnosis and management of sexually transmitted infections
<http://www.nycptc.org/>