Cefixime Resistant Infection of *Neisseria gonorrhoeae* Identified in Central Oklahoma

The Oklahoma State Department of Health, in coordination with the Oklahoma City County Health Department, alerts Oklahoma healthcare providers that in February 2012, an Oklahoma City resident was identified as being infected with an isolate of *Neisseria gonorrhoeae* showing laboratory-based resistance to cefixime, an oral cephalosporin. Additionally, this isolate demonstrated ceftriaxone susceptibility at the upper limit of sensitivity, i.e., near the level to be labeled resistant to ceftriaxone.

This finding was identified through the Gonococcal Isolate Surveillance Project (GISP) in Oklahoma City. The Gonococcal Isolate Surveillance Project (GISP) was established in 1986 to monitor trends in antimicrobial susceptibilities of strains of *N. gonorrhoeae* in the United States in order to establish a rational basis for the selection of gonococcal therapies. GISP is a collaborative project among selected sexually transmitted diseases (STD) clinics, five regional laboratories, and the Centers for Disease Control and Prevention (CDC).

In GISP, *N. gonorrhoeae* isolates are collected from the first 25 men with urethral gonorrhea attending STD clinics each month in approximately 28 cities in the United States. At regional laboratories, the susceptibilities of these isolates to penicillin, tetracycline, spectinomycin, ciprofloxacin, ceftriaxone, cefixime, and azithromycin are determined by agar dilution. Minimum inhibitory concentrations (MICs) are measured, and values are interpreted according to criteria recommended by the Clinical and Laboratory Standards Institute (CLSI).

Because cephalosporins are the foundations of the only remaining antibiotic treatment options for gonorrhea, the finding of a cephalosporin-resistant gonococcal infection in Oklahoma is of public health concern. Therefore, the OSDH is requesting that follow-up and test of cure (TOC) be implemented for patients who have been diagnosed with gonorrhea and treated with azithromycin 2 g or with combination therapy of cefixime plus azithromycin or doxycycline. No TOC is necessary if ceftriaxone plus azithromycin or doxycycline is used. TOC should include culture from the infected site one week following treatment, or Nucleic Acid Amplification Test (NAAT) one week following treatment if culture is not available. In the event that the TOC NAAT test is positive, the clinician should perform a culture from the infected site. Any recognized treatment failures should be promptly reported to the Oklahoma State Department of Health HIV/STD Service at 405-271-4636.

The latest recommended treatment from the CDC for persons with gonorrhea and their sexual partners/contact is:

- **Ceftriaxone 250 mg IM in a single dose**
  - OR, if Ceftriaxone is not an option,
- **Cefixime 400 mg orally in a single dose**
  - OR
- **Single-dose injectible cephalosporin regimens**
  - PLUS
- **Azithromycin 1g orally in a single dose**
  - OR
- **Doxycycline 100 mg orally twice a day for 7 days**

According to the 2011 MMWR *Cephalosporin Susceptibility Among Neisseria gonorrhoeae Isolates --- United States, 2000—2010*, dual therapy for gonorrhea with ceftriaxone 250 mg plus azithromycin is preferred.
Please note that the recommended treatment for persons with gonorrhea is applicable to cervical, urethral, pharyngeal and anal/rectal infection.

For additional information, CDC Sexually Transmitted Disease (STD) Treatment Guidelines and referenced MMWR can be found at the following websites:
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6026a2.htm?s_cid=mm6026a2_w

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Categories of Health Alert messages:

- **Health Alert** — highest level of notification that the Oklahoma State Department of Health will send out. This usually refers to an immediate threat to the OSDH community and requires immediate action.
- **Health Advisory** — advises medical providers of a condition in the area. These are usually not medical emergencies. These may not require immediate action.
- **Health Update** — provides updates on previous alerts or advisories. These are unlikely to require immediate action.

## This advisory has been distributed to Infection Preventionists, Primary Care and Infectious Disease Physicians and State and Local Health Officials ##

You have received this message based upon the information contained within our emergency notification database. If you have a different or additional e-mail or fax address that you would like us to use please contact the OSDH Acute Disease Service at (405) 271-4060.