NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
MANDY COHEN, MD, MPH • Secretary
MARK T. BENTON • Assistant Secretary for Public Health
Division of Public Health

To: North Carolina Clinicians and Laboratorians

From: Victoria Mobley, MD MPH, HIV/STD Medical Director
North Carolina Communicable Disease Branch

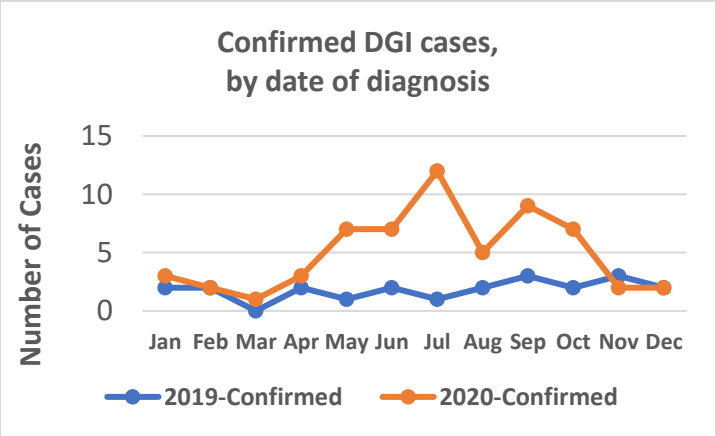
William A. Glover II, PhD, D(ABMM), MT(ASCP), Assistant Director of Infectious Diseases,
NC State Laboratory of Public Health

Subject: Increase in Disseminated Gonococcal Infections

4/19/2021

Dear Colleagues,

Between January 1, 2020 and December 31, 2020, there were 60 confirmed disseminated gonococcal infections (DGI) reported in North Carolina. Compared to the 22 confirmed DGI cases reported in 2019, this represents a 173% increase and is likely, at least in part, due to delays in the diagnosis and treatment of gonococcal infections during the COVID-19 pandemic.



DGI occurs when the sexually transmitted pathogen *Neisseria gonorrhoeae* invades the bloodstream and spreads to distant sites in the body, leading to clinical findings such as septic arthritis, polyarthralgia, tenosynovitis, petechial/pustular skin lesions, bacteremia, or, on rare occasions, endocarditis or meningitis.

DGI is uncommon and thought to occur in 0.5-3% of untreated gonorrhea cases. Mucosal sites of infection (e.g. urogenital, rectal, or pharyngeal), despite having higher diagnostic yields are often not tested due to being asymptomatic, while cultures from disseminated sites of infection are frequently negative. These factors likely contribute to underdiagnoses and treatment delays associated with DGI.

Recommendations for Clinicians

If you suspect DGI:

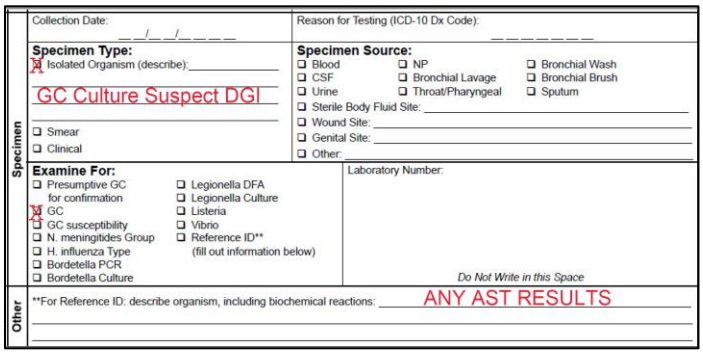
- Perform a thorough and culturally appropriate sexual and behavioral risk history.
- Obtain both nucleic acid amplification testing (NAAT) and culture specimens from the disseminated site(s) of infection- e.g., skin, synovial fluid, blood, or CSF.

- Obtain both NAAT and culture specimens from all urogenital and extragenital sites of exposure, even if patient is asymptomatic at those sites.
- Seek antimicrobial susceptibility testing of all *N. gonorrhoeae* isolates from patients with known or suspected DGI.
- Treat known or suspected DGI patients per the CDC STD Treatment Guidelines (https://www.cdc.gov/std/tg2015/gonorrhea.htm), in conjunction with an infectious disease consultation.*
- Instruct patients to refer all sex partners from the past 60 days for evaluation, testing, and presumptive treatment for gonorrhea.
- Report all suspected DGI cases to your local health department using NC Division of Public Health Communicable Disease Report form (https://epi.dph.ncdhhs.gov/cd/docs/dhhs_2124.pdf). Local health department contact information is available at https://www.ncdhhs.gov/divisions/public-health/county-health-departments.

* Clinical consultation for DGI management is available through the STD Clinical Consultation Network (https://www.stdccn.org/).

Recommendations for Local, Clinical, and Commercial laboratories

- Send all clinical isolates or subcultures from suspected DGI cases to the North Carolina State Laboratory of Public Health (NCSLPH).
- Isolates should be sent to NCSLPH on Chocolate slants with fresh growth (24 to 48 hours old). If culture plates are >48 hours old, they must be sub-cultured, incubated, and sent once fresh growth is present.
- Slant cultures should be overlaid with sterile broth (such as infusion broth) to within one inch of the top of the tube, sealed with parafilm , and placed in a leak-proof container before shipping to help preserve organism viability.
- Complete the entire NCSLPH Atypical Bacteriology Form 4121 (https://slph.ncpublichealth.com/Forms/4121-SpecAtypBact-20170808.pdf) in addition to indicating “GC Culture Suspect DGI” within Specimen Type section, and “GC” under Examine For, and list any antimicrobial susceptibility testing (AST) results within the “Other” section of the form (see example).



- Plainly label GC culture “suspect DGI" and "DO NOT REFRIGERATE" on the outside of the package, and address to “Atypical Bacteriology” and include the completed NCSLPH Atypical Bacteriology Form 4121.
- Do not ship on Fridays, weekends, or State holidays.
- The submitting laboratory should maintain a viable additional culture at 35-37C in CO_2 in the event the isolate does not survive shipment.
- Questions can be directed to the NCSLPH Atypical Bacteriology bench at (919) 807-8606.

Please contact the Communicable Disease Branch with any questions or concerns, (919) 733-3419.