



2019 ALERT # 6

Invasive Meningococcal Disease in Far Rockaway, Queens

Please Share this Alert with All Emergency Medicine, Family Medicine, Primary Care Physicians (Pediatric and Adult), Infectious Disease, and Internal Medicine Staff in Your Facility

- **Two cases of invasive meningococcal disease (IMD) have been diagnosed in persons who either live or work in Far Rockaway, Queens**
- **No direct epidemiologic link between the patients has been identified**
- **Both patient isolates are serogroup C (additional molecular comparison is underway)**
- **NYC experiences on average 10 cases of IMD per year (incidence rate of 0.1/100,000).**
- **There has not been an IMD case in Far Rockaway, Queens since before 2000**

March 27, 2019

Dear Providers,

Two cases of invasive meningococcal disease (IMD) were diagnosed in early March in persons who either live or work in Far Rockaway, Queens. The first patient is a child who presented with two days of fever, lethargy, cough, vomiting and diarrhea in the first week of March and was diagnosed with meningococemia. The second patient is an adult who works in the area and became ill two days after the initial case. This patient presented with two days of subjective fever, nausea, headache, vomiting, diarrhea, generalized body aches (specifically back pain) and was diagnosed with meningitis. **The two patients had no known contact with each other.** Both cases were serogroup C; further molecular testing is underway. Both patients are recovering.

Invasive meningococcal disease (IMD) is a rare but serious bacterial infection caused by the gram-negative bacterium *Neisseria meningitidis*. The NYC incidence of IMD has declined since 2000 from 0.6/100,000 to 0.1/100,000. IMD is transmitted via respiratory droplets among close contacts (e.g., household members, intimate partners). Meningitis is the most common presentation of IMD, however, other presentations include uncomplicated bacteremia, pneumonia, septic arthritis and meningococemia. Patients may present with one or more IMD syndromes, and the highest risk of death is from meningococemia. Progression to meningococemia is often abrupt and is characterized by hypotension, tachycardia, tachypnea, petechial rash or purpura, altered mental status, thrombocytopenia, and leukopenia. Death may occur within hours of onset.

Whereas the signs and symptoms of meningitis are readily identifiable, early meningococemia may be subtle and difficult to recognize in a patient who does not appear septic. The following clinical and laboratory clues may aid in suspecting the diagnosis:

- Petechiae particularly on areas of skin pressure zones, the palms, and the soles or the conjunctiva and pharynx
- Severe muscle or abdominal pain unexplained by an alternative etiology

- Serial vital signs showing worsening (or unremitting) tachycardia, tachypnea or hypotension despite treatment
- Low peripheral white blood cell count ($< 5,000/\text{mm}^3$) with predominance of neutrophils
- Borderline or low platelet count ($<150,000/\text{mm}^3$)
- Elevated serum lactate
- Borderline or low serum potassium

Antibiotic treatment should not be delayed to obtain diagnostic specimens. While any single finding does not necessarily suggest IMD, the constellation of findings in a febrile patient warrants closer scrutiny and consideration of empiric antibiotic therapy while awaiting confirmatory laboratory test results. With declining incidence of IMD, it is crucial that providers maintain a high index of suspicion for IMD. Up to 30% of IMD patients will have negative cultures, therefore, it is imperative that providers think of IMD and report promptly to the health department so we may arrange PCR testing at the Wadsworth Center State Laboratory.

Providers are strongly recommended to offer meningococcal conjugate serogroups A, C, W, Y vaccine (MenACWY) to eligible patients who have not yet been vaccinated. Routine vaccination is recommended for adolescents at 11-12 years of age with a second dose at 16 years. In addition, persons with anatomic or functional splenia, HIV infection, persistent complement component deficiency or on eculizumab should also be vaccinated with MenACWY. For persons age 24 months and older, a 2-dose series should be administered at least 8 weeks apart; check the immunization schedule at <https://www.cdc.gov/vaccines/schedules/hcp/index.html> for persons 2 to 23 months of age. Further, DOHMH recommends that men who have sex with men, regardless of HIV status, who regularly have close or intimate contact with other men met either online through a website, mobile application (“app”), or at a bar or party be vaccinated with one dose of MenACWY unless they meet the criteria given above for 2 doses. All persons at ongoing increased risk for IMD, should be revaccinated every 5 years, if risk remains.

Notifying the Health Department about suspect and confirmed cases is critical to preventing secondary transmission. The Health Department is available during business and after hours for consultation and will arrange for PCR testing of blood, cerebrospinal, joint and pleural fluid at the New York State Wadsworth Center.

Report immediately both suspect and confirmed IMD cases to the Health Department by telephone. To report a suspect or confirmed IMD case and for information about IMD and vaccination, please call 866-NYC-DOH1 (1-866-692-3641)

We greatly appreciate your assistance.

Sincerely,

Don Weiss, MD, MPH
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Marcelle Layton, MD
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