Maxor SPECIALTY PHARMACY

Rare Lung Disease
Nontuberculous Mycobacteria (NTM) Disease

Disease State Overview

Nontuberculous Mycobacteria (NTM) are different types of bacteria found everywhere in the environment, including in soil and tap water, that can cause or worsen respiratory disease. The most common species of NTM are *Mycobacterium avium complex*, also known as MAC. Because NTM exist everywhere in our environment, healthy people may inhale NTM but not actually get infected. It can, however, affect those with immunodeficiencies and other health conditions. People at higher risk of getting NTM include those with chronic lung diseases, such as cystic fibrosis (CF), bronchiectasis, and chronic obstructive pulmonary disease (COPD), along with individuals above the age of 65. People with deficient immune systems can also be affected due to not being able to fight off the bacteria. NTM is not contagious. NTM is diagnosed by performing multiple sputum tests to determine if NTM are present and, if present, what strain. Other tests that may be performed include chest X-rays or CT scans. Additionally, symptoms are assessed to determine the severity of the disease. Onset of an NTM infection is often very slow and incubation periods can last from months to years, making diagnosis and tracing the source of the infection almost impossible in many cases.

Related Symptoms and Health Concerns

The bacteria make their way to the lung tissue and can cause serious lung infection. Symptoms of NTM may include…

- Cough: with or without sputum. NTM may cause you to cough up blood; if this occurs, contact your doctor or seek emergency help immediately.
- Fever or night sweats
- Loss of appetite and weight loss
- Fatigue/weakness
- Shortness of breath
- Wheezing
- Chest pain with breathing

Treatment

Treatment for NTM depends on the type of bacteria that is causing the disease as well as the severity of the disease. Treatments consist of three or more antibiotics (oral, intramuscular, IV, or inhaled) to fight off the specific bacteria. The purpose of multiple antibiotics together is that each class works slightly differently. Selecting a regimen with drugs from different classes helps them to essentially work as a team to attack the bacteria. Antibiotic therapy may last up to two years depending on your response to the regimen. Specialty medications may be used to treat NTM, such as Arikayce which is inhaled amikacin.

Treatment Goals

The primary goal of NTM therapy is to convert positive sputum cultures to negative and maintain negative cultures for at least 12 months before discontinuing therapy. Other goals of therapy include…

- Maintaining lung function
- Preventing and treating secondary lung infections
- Improving or maintaining quality of life
- Maintaining optimal therapy adherence
- Preventing, minimizing, and managing side effects of therapy

Strategies to Achieve Treatment Goals

- Adherence to therapy
- Monitoring and follow-up with physician
- Vision and hearing tests
- Stay up to date on vaccinations
- Avoid smoking or other lung irritants
- Airway clearance exercises
- Reduce NTM exposure by wearing a mask or increasing temperature of hot water heater to get rid of NTM in tap water

Additional Resources

- Ntminfo.org
- https://www.aboutntm.com/
- https://www.lung.org/lung-health-diseases/lung-disease-lookup/nontuberculous-mycobacteria
- https://www.inspire.com/groups/american-lung-association-lung-disease/

Sources

1. Daley, Charles, et al. Treatment of Nontuberculous Mycobacterial Pulmonary Disease: An Official ATS/ERS/ESCMID/IDSA Clinical Practice Guideline. *Infectious Disease Society of America*. 2020;71:1-36.
2. Ratnatunga CN, et al. The Rise of Non-Tuberculosis Mycobacterial Lung Disease. *Front. Immunol*. 2020;11:303. doi: 10.3389/fimmu.2020.00303.