



For patients with a pre-existing lung disease,

# COULD NTM BE CAUSING MORE DAMAGE?

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A nontuberculous mycobacterial (NTM) lung disease is a chronic condition that can be debilitating and get progressively worse<sup>1,2</sup>



## WHAT YOU NEED TO KNOW ABOUT NTM

### How common is NTM?

A survey conducted in 2014 estimates that there are almost 20,000 patients in Europe who have been diagnosed with a pulmonary NTM infection. Since this disease is not notifiable, the actual number of infections could be higher.<sup>3,4</sup>

### Who is at risk for NTM?

Patients with structural lung diseases such as emphysema, asthma, bronchiectasis, cystic fibrosis, and COPD are at increased risk of developing the disease. Most healthy people who come into contact with NTM do not become ill.<sup>5-8</sup>

### Who is a typical NTM patient?

A classic patient with pulmonary NTM infection also suffers from additional lung disease, is male, middle-aged, and a smoker. The progression of the disease can lead to extensive cavitory lung damage which in turn can lead to respiratory failure within a few years.<sup>1,5</sup>

Another typical group of patients are postmenopausal women who do not smoke. They have no previous history of lung disease, however, suffer from a chronic cough which may not have responded to treatment with antibiotics. Although the disease tends to progress slowly, deaths stemming from the progression of this disease are associated with this patient group.<sup>1,5</sup>

### Why does the diagnosis of NTM present a challenge?

The signs and symptoms of a pulmonary NTM infection, such as chronic cough, fatigue, and failure of antibiotic treatment occur frequently and are so non-specific that these signs and symptoms could be the result of many other diseases. This makes it easy to overlook NTM which can go undiagnosed for months or even years.<sup>1,5</sup>

### How serious is an infection caused by NTM?

Some NTM lung infections (e.g. *Mycobacterium avium* complex) could progress, in a relatively short time, to extensive cavitory lung destruction and respiratory failure.<sup>1</sup>

Pulmonary NTM infections can worsen lung function even further. This can result in exacerbation of existing respiratory problems in patients with severe concomitant diseases.<sup>6,9</sup>

**References:** 1. Griffith DE, Akshmit T, Brown-Elliott BA et al. An Official ATS/IDSA Statement: Diagnosis, Treatment, and Prevention of Nontuberculous Mycobacterial Diseases. *Am J Respir Crit Care Med.* 2007;175:367-416. 2. Winthrop KL, McNelley E, Kendall B, et al. Pulmonary Nontuberculous Mycobacterial Disease Prevalence and Clinical Features. *Am J Respir Crit Care Med.* 2010;182(7):977-982. 3. Wagner D, van Ingen J, Adjemian J, et al. Annual Prevalence and Treatment Estimates for Nontuberculous Mycobacterial Pulmonary Disease in Europe: A NTM-NET Collaborative Study. 2014, Presented at ERS Congress. 4. Van der Werf MJ, Ködmön C, Katalinc-Janković V, et al. Inventory study of non-tuberculous mycobacteria in the European Union. *BMC Infectious Diseases.* 2014;14(62):1-9. 5. Young JD, Balagopal A, Reddy NS, et al. Differentiating colonization from infection can be difficult. *J Respir Dis.* 2007;28(1):7-18. 6. Adjemian J, Olivier KN, Seitz AE, et al. Prevalence of nontuberculous mycobacterial lung disease in U.S. Medicare beneficiaries. *Am J Respir Crit Care Med.* 2012;185(8):881-886. 7. Fritscher LG, Marras TK, Bradi AC, et al. Nontuberculous mycobacterial infection as a cause of difficult-to-control asthma: a case-control study. *Chest.* 2011;139(1):23-7. 8. Adjemian J, Olivier KN, Prevots DR. Nontuberculous mycobacteria among patients with cystic fibrosis in the United States: screening practices and environmental risk. *Am J Respir Crit Care Med.* 2014;190(5):581-586. 9. Lee M-R, Yang C-Y, Chang K-P, et al. Factors Associated with Lung Function Decline in Patients with Non-Tuberculous Mycobacterial Pulmonary Disease. *PLoS ONE.* 2013;8(3):e58214.

Graphic is for illustrative purposes only. Disease progression and actual lung damage vary among patients.

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