

# 비결핵성 마이코박테리아 폐질환의 진단과 치료

## Diagnosis and Treatment of Nontuberculous Mycobacterial Pulmonary Diseases

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### Abstract

Eight years before the Robert Koch's identification of *Mycobacterium tuberculosis*, *Mycobacterium leprae*, which is the firstly identified nontuberculous mycobacteria (NTM), was reported by G.H. Armauer Hansen in 1874. Thereafter a total of 71 species of *Mycobacterium* have been recognized or proposed. Despite the fact that NTM have been occasionally identified from clinical specimens, it is only recently that they draw a serious attention. In Korea, the frequency of isolation of NTM increased from 448 in 1992 to 1562 in 2002, while the prevalence of active tuberculosis over the same period decreased from 1.8% to 0.5%. The most commonly isolated NTM was *M. avium* - *intracellulare* complex (MAC) throughout the period of 1992~2002. *M. abscessus* was the second common, followed by *M. fortuitum*, *M. goodii* and *M. kansasii*. In this article, we will overview the NTM - related lung diseases in terms of their diagnosis, clinical characteristics, and treatment.

**Keywords :** Nontuberculous mycobacteria;  
Diagnosis; Treatment

핵심 용 어 :

; ;

(Non-tuberculous mycobacteria, NTM) *Mycobacterium leprae*가 (1). 1885 *M. smegatis*가 70 (2). 1966 가 (3), 1970 가 1981 (4), 가 1992 가 448 , 2002 1,562 가 . 2003 1,805 21.5%가 가 , 가

1. ( ) (6)

가

- Infiltrates with or without nodules (Persist > 2 mo. or 2 months)
- Cavitation
- Nodules alone (multiple)
- Multiple small nodules
- Multifocal bronchiectasis with or without small lung nodules

1 3 / 가  
 • 3 3  
 • 1 2  
 가 1  
 • 2+, 3+, 4+  
 • 2+, 3+, 4+  
 /  
 가  
 가

가

(M.

*avium* complex, *M. kansasii*, *M. abscessus*, *M. xenopi*, *M. malmoennse*),

(*M. avium* complex, *M. scrofulaceum*, *M. malmoennse*),

(*M. marinum*,

*M. fortuitum*, *M. chelonae*, *M. abscessus*, *M. ulcerans*),

(*M. avium*

complex, *M. kansasii*, *M. chelonae*, *M. haemophilum*)

(6).

가

M.

*avium* complex, *M. abscessus*, *M. fortuitum*, *M. gordonae*, 2002

*M. avium* complex(49%), *M. abscessus*(17%), *M. fortuitum*(12%), *M. gordonae*(8%)

1954 Timpe Runyon

,

Runyon (5).

가 7

(Slow grower) I, II, III, 7

(Rapid grower)

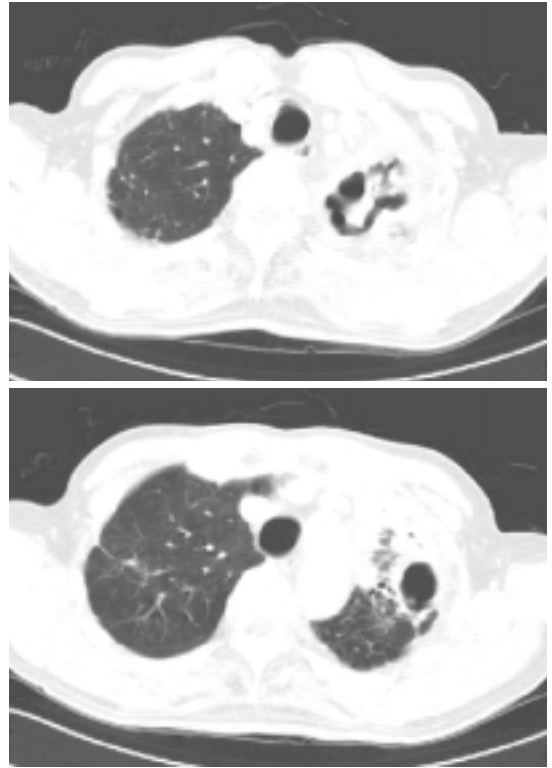
IV

I, II, III

가

Runyon 가

(Colonizer) 가



1. *M. avium* complex

가

가

1997

( 1)(4),

가

가

. *M. avium* complex

가 isoniazid, rifampicin

azithromycin,

가

가

## 2.

<i>M. avium</i> complex	<ul style="list-style-type: none"> <li>• Clarithromycin (500mg, )</li> <li>• Ethambutol (25mg/kg 15mg/kg )</li> <li>• Rifampin (600mg )</li> </ul>	azithromycin (250mg )	
<i>M. abscessus</i>	<ul style="list-style-type: none"> <li>• Clarithromycin (500mg, )</li> <li>• Amikacin ( 가 20 µg/ml , )</li> <li>• Cefoxitin (4g, ) imipenem (750mg, )</li> </ul>		2~6
	<ul style="list-style-type: none"> <li>• Clarithromycin (500mg, )</li> <li>• Doxycycline?, moxifloxacin?, linezolid?</li> </ul>		6~12
<i>M. kansasii</i>	<ul style="list-style-type: none"> <li>• Isoniazid (300mg, )</li> <li>• rifampin (600mg, )</li> <li>• Ethambutol (25mg/kg 15mg/kg )</li> </ul>		

clarithromycin macrolide complex

(4).

가

가

(6).

PCR - RFLP

, , COPD

1~2

( 1)(7, 8).

*M. avium* complex

(lingular segment)

(9, 10).

가

*M. avium* complex

가 (6).

1. *M. avium* complex

2)

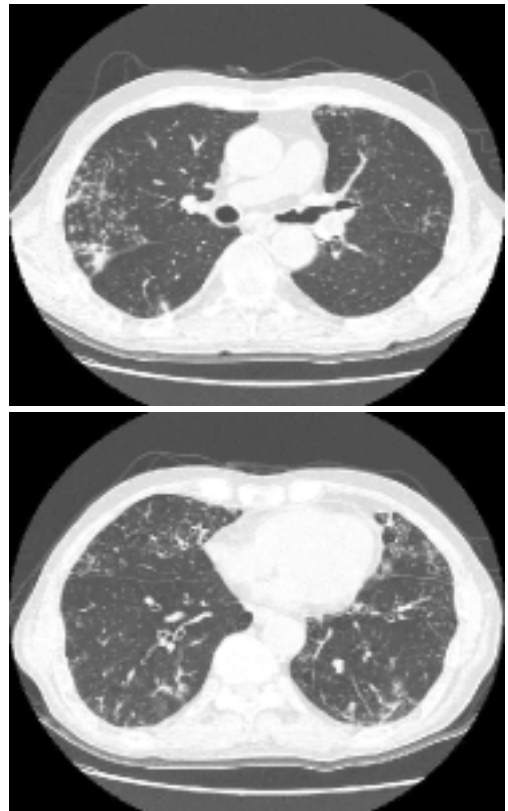
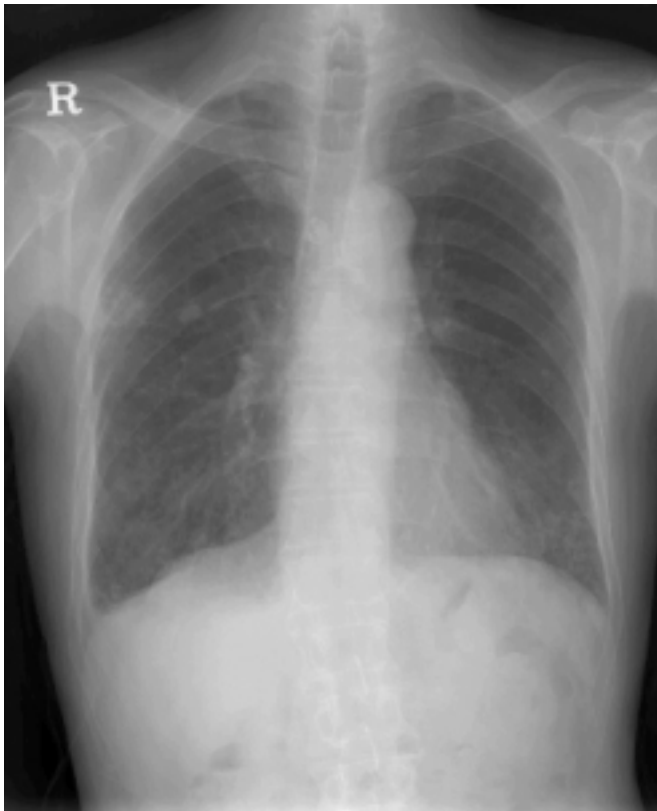
1)

Macrolide

가

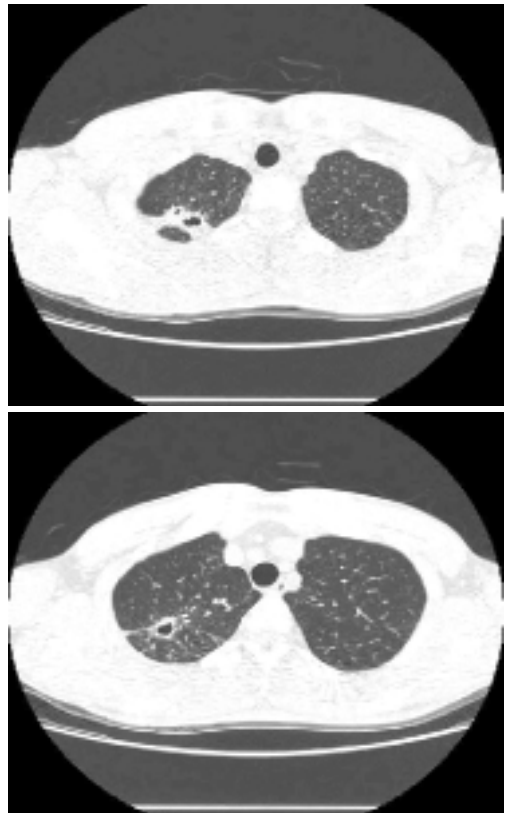
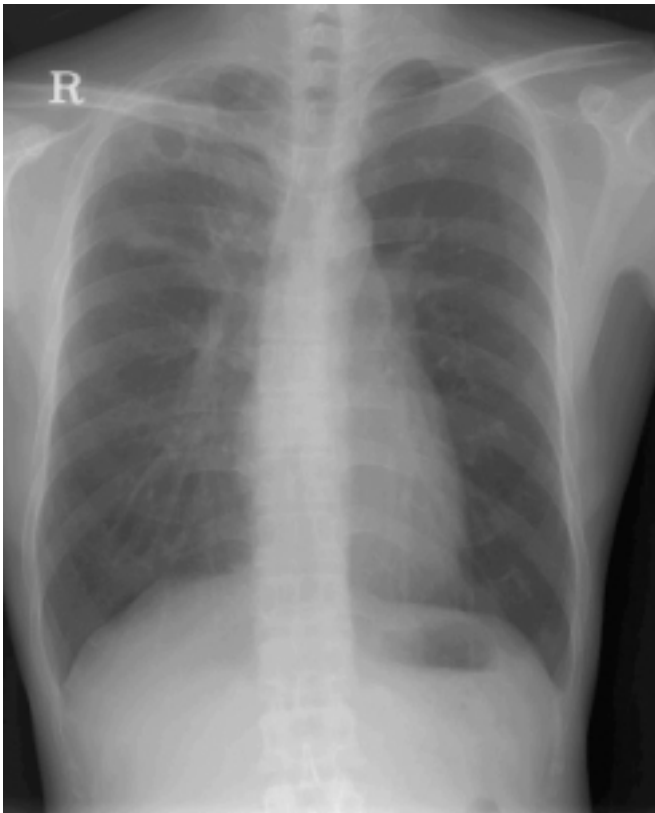
*M. avium* *M. intracellulare**M. avium**M. avium* complex

가



2. *M. abscessus*

(11, 12).		1994	Wallace	<i>M. avium</i>	(6).			
complex			4	1,000mg	clarithromycin 250mg		azith-	
clarithromycin					romycin 250mg 1		3	
58%		가		(13)	0.5 ~ 1.0g		streptomycin	
macrolide								
clarithromycin(500mg,							macrolide	
mycin(250mg		)	rifampin(600mg	plex	rifampin(		<i>M. avium</i> com-	
)/rifabutin(300mg		),	ethambu-	ethambutol(	15mg/kg)		450 ~ 600mg)	
tol( 2		25mg/kg,	15mg/kg	300mg	isoniazid		가 2	
		1			(14).			



3. *M. kansasii*

## 2. *M. abscessus*

1)

*M. abscessus*

가 (15).

( 2)(16).

2)

*M. abscessus*

. *M. abscessus*

ami-kacin,

cefoxitin, imipenem,

macrolide

amikacin

cefoxitin

4~6

(6),

가

가

## 3. *M. kansasii*

1)

*M. kansasii*

(17~20), *M. kansasii*

(21~24).

*M. kansasii*

1 isoniazid, rifampicin, ethambutol, streptomycin (6, 14) 가 ( 3).

2)

*M. kansasii*

isoni-

azid( 300mg), rifampin( 600mg), ethambutol( 2 25mg/kg, 15mg/kg) 18 (6), rifampin( 450~600mg) ethambutol( 15mg/kg) 9 (14).

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가

가

가

가

가

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## Peer Reviewer Commentary

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1994

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